



Singleton Council

# **Water Supply and Sewerage Services: Strategic Business Plan**

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## Executive Summary

This document forms the strategic business direction of the Water and Sewerage businesses operated by Singleton Council. This document is made up of a series of sub-plans which aim to provide an integrated direction for the business to perform in a manner that meets customer needs in an efficient manner.

The projected life of this plan is four to five years. Longer term requirements which may influence the plan are considered by using a thirty year planning horizon.

## Operating environment review (section 2 of the Plan)

### Institutional arrangements

The Water and Sewerage business operates under the custodianship of Singleton Council, which is constituted under the *Local Government Act 1993*. The Water and Sewerage business is subject to several pieces of legislation covering public health protection, environmental protection and work, health and safety. The business is subject to various state government entities such as the NSW Office of Water and the Environment Protection Authority.

The serviced areas are shown at the conclusion of this Executive Summary.

### Situation analysis

The Singleton local government area has historically exhibited strong growth due to the mining activities in the region. The water and sewerage systems are still projected to grow at a rate around 1.0% per annum to service an increasing population, reducing occupancy per dwelling and increased non-residential development. This will lead to the business needing to provide new and expanded infrastructure to service this development, but will also increase the revenue to the business. The actual rate of growths is affected by the economics of mining.

The NSW DPI Water expects the business to comply with a series of “Best Practice” standards, covering matters such as strategic planning, integrated water cycle management, pricing and performance monitoring. Some of these requirements tie to National Competition Policy and the National Water Initiative. Council complies with these requirements.

Customers consider that provision of water and sewerage services is of high importance to them, and also have given Council’s service a high satisfaction rating.

## Mission (section 3)

The mission of the Singleton Council’s Water and Sewerage business is:

***To provide cost effective water supply and sewerage services to the serviced areas of Singleton Council that meet the Levels of Service to which customers have agreed, and for which they are prepared to pay, and which satisfy all statutory requirements. The services will be provided equitably and in a commercial manner, taking into account the***

*values of the broader community as articulated in Council's Vision and Mission. The services will be environmentally sensitive, promote ecological sustainability within the areas of operations, protect public health and make best use of regional resources.*

## **Level of service (section 4)**

The level of service is defined by the experience that the customers of the water and sewerage business have. Customers include the users of the system, the community at large and the receiving environment.

The level of service targets proposed for the period 2016 to 2021 are provided as *Table 5 - Level of Service – Water Supply* and *Table 6 - Level of Service – Sewerage*. The level of service proposed for the sewerage business is generally based on the parameters recommended by the *NSW Water and Sewerage Strategic Business Planning Guidelines* (NSW Office of Water, 2011).

## **Service delivery strategy (section 5)**

The Water Supply and Sewerage businesses currently deliver services through a mix of in-house resources, tendered services and minor contractor services. This balance between in-house and outsourced resources will continue.

There is beneficial collaboration with adjoining Councils through the Upper Hunter Water Utilities Alliance. Council will continue to build on alliances with neighbouring councils to share resources and to streamline procurement where feasible.

## **Customer service plan (section 6)**

### **Consultation and performance**

Singleton Council commissioned a community survey to gauge customer satisfaction in April/May 2011. The survey results, which inform Councils asset management planning, reflected high importance and high satisfaction ratings for both the water supply and sewerage services.

### **Areas served**

Both water supply and sewerage services are provided by Council within the urban area of Singleton only. Potable water only is reticulated to the villages of Jerrys Plains, Broke, Mount Thorley and the Singleton Army Camp. These villages/localities do not have a sewerage system, but are serviced by on-site sewage treatment systems.

Council currently supplies non-potable water to the villages of Bridgeman, Mount Olive, Obanvale, St Clair and Wattle Ponds.

In addition, Council is planning to extend water supply services to the villages of Bulga and Camberwell via the installation of decentralised water treatment plants in 2017/18 and 2018/19.

### **Demand management, drought management**

During 2013/14 average residential water supplied per residential property was 297 kL. The state median was 263 kL for inland LWUs. Water consumption is above the median, reflecting the drier conditions experienced when compared with the higher populated coastal areas. The Demand Management Plan, known as the Singleton Water Conservation Strategy was adopted and implemented in 2010 and documents a number of initiatives currently in place.

The objective of demand management for the sewerage system is to reduce wet weather hydraulic loading to the economic limit. Council has implemented a system of education, routine inspections and smoke testing to locate and eliminate illegal connections, and is identifying and rectifying reticulation pipes that are failing and allowing infiltration into the sewerage system.

Council's *Drought Management and Emergency Response Plan* (DMERP) was also prepared in 2010. It is a comprehensive document which describes and details how Singleton Council will manage its water supply during periods of drought. Drought Management now forms part of the Strategic Business Planning process, and it is recommended that this section be revised after the release of the replacement Water Sharing Plan for the Hunter Regulated Water Source (due 1 July 2016).

### **Quality management**

Council's Drinking Water Management System is a contemporary document prepared in 2014 and complies with current legislation.

### **Pricing and regulation**

Council has generally performed well and complies with all of the NOW Best Practice Guideline criteria. The water business has adopted an inclined block tariff and achieves the 75%/25% split between demand and access charges. The Sewerage business raises revenue using a fully compliant pricing structure, inclusive of two-part tariffs<sup>1</sup>, liquid trade waste charges and developer charges.

The revenue split between residential and non-residential will be reviewed in line with financial plan revisions to ensure that there is no significant cross-subsidy between these sectors.

Council is preparing a contemporary Development Servicing Plan (DSP) which will refine the level of contributions payable when development takes place. Completion of the DSP is due during 2016.

### **Environmental protection and sustainable development**

Council has a formal Pollution Incident Response Management Plan (PIRMP) for the Singleton STP. Council is developing due diligence processes within its Operations Plan framework, undertaking Hazard Analysis and Critical Control Points (HACCP) analysis, and funding additional capital works where risk assessment determines this is necessary.

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<sup>1</sup> For residential premises, the tariff is applied as a flat charge per residence.

## Total asset management plan (section 7)

The Total Asset Management Plan consists of an Operations Plan, a Maintenance Plan and a Capital Works Plan.

The actions arising from the Operations Plan include:

- Continue the implementation of the Business Rules project to ensure accurate and useful corporate asset data.
- Continue the rolling program of asset inspection.
- Contractors will be engaged to successfully perform asset condition inspections.
- Continue with on-going program asset renewals.
- Consider all alternatives to improve asset condition, such a pipe relining.
- Implement a sewer maintenance hole inspection and improvement program to act on the problem of disproportionate wet weather inflow to the Sewage Treatment Plant.

The Actions from the Maintenance Plan include:

- Continue to maintain and update documentation of maintenance procedures.
- Implement fixed interval maintenance practices for critical system components such as pumps and measuring equipment.
- Use suitably qualified contractors to perform specialised maintenance works.
- Explore opportunities to participate in regional grouping initiatives.
- Improve record keeping of maintenance and enhance communication between operational and professional staff.

A 30 year capital works plan is provided. The actions arising from the Capital Works Plan include:

- Complete the condition evaluation for water and sewer assets, and use this information to extrapolate useful lives that reflect Singleton's circumstance.
- Revisit planning for renewals following the development of this new information.
- Develop a comprehensive planning framework for new works to service growth.

## Workforce plan (section 8)

This Plan seeks to address how the workforce needs to change in response to level of service targets, changes in service delivery and the condition of the asset base. Staffing rates for the business were until recently below state averages, but have been boosted to a more productive level, in line with State medians, by a recent restructure implemented by Council.

This Plan proposes the following to ensure that the workforce is capable of maintaining the services necessary to achieve the level of service targets for the business in the medium term:

- Review business workflows to streamline processes and to generate efficiencies and better use existing resources.

- Finalisation of position descriptions and learning plans associated with the improvements to the organisation structure.
- Develop a succession plan that identifies any staff members with the potential or the skills to occupy higher classifications and establishes a career development programme for them. The succession plans will need to consider Strategies to encourage documentation of procedures and a mentoring system.
- Continue to develop and improve work practices.
- Continue to monitor and improve the WHS system.
- Be pro-active within the Upper Hunter region in regard to proposed local government reforms.

### Financial plan (section 9)

The recommendations of this plan will assist Singleton's water and sewerage businesses in working towards a sustainable position in regards to long term financial sustainability.

There are a number of vulnerabilities in the business that will be addressed following the completion of a Development Servicing Plan. Although there are very high levels of cash and investments, the financial modelling shows that the capital works plan for the water supply business does not provide enough capacity to meet the likely demands of population growth. Hence the water fund modelling is returning a negative economic real rate of return (ERRR).

Until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bills for water fund and sewer fund, with increases in line with inflation.

For the water fund, the financial modelling indicates that a typical water residential bill (TRB) of \$480 is adequate to service the capital works plan, however a TRB of \$530 is necessary to generate a positive ERRR. The TRB for water fund in 2014-15 was \$511. Council is currently preparing a new Development Servicing Plan (DSP), which will ensure that there is a comprehensive planning framework in place to meet future growth. The current capital works plan for the water fund includes no new works in the second half of the 30 year planning period. Accordingly the level of cash and investments is increasing substantially towards the end of the life of the plan, and it is suggested that the plan be updated after the DSP is complete.

For the sewer fund, a typical residential bill of \$440 is adequate to service the existing capital works plan, and the ERRR is positive. This is less than the 2014-15 TRB of \$480. The capital works plan may be refined following the completion of the Development Servicing Plan.

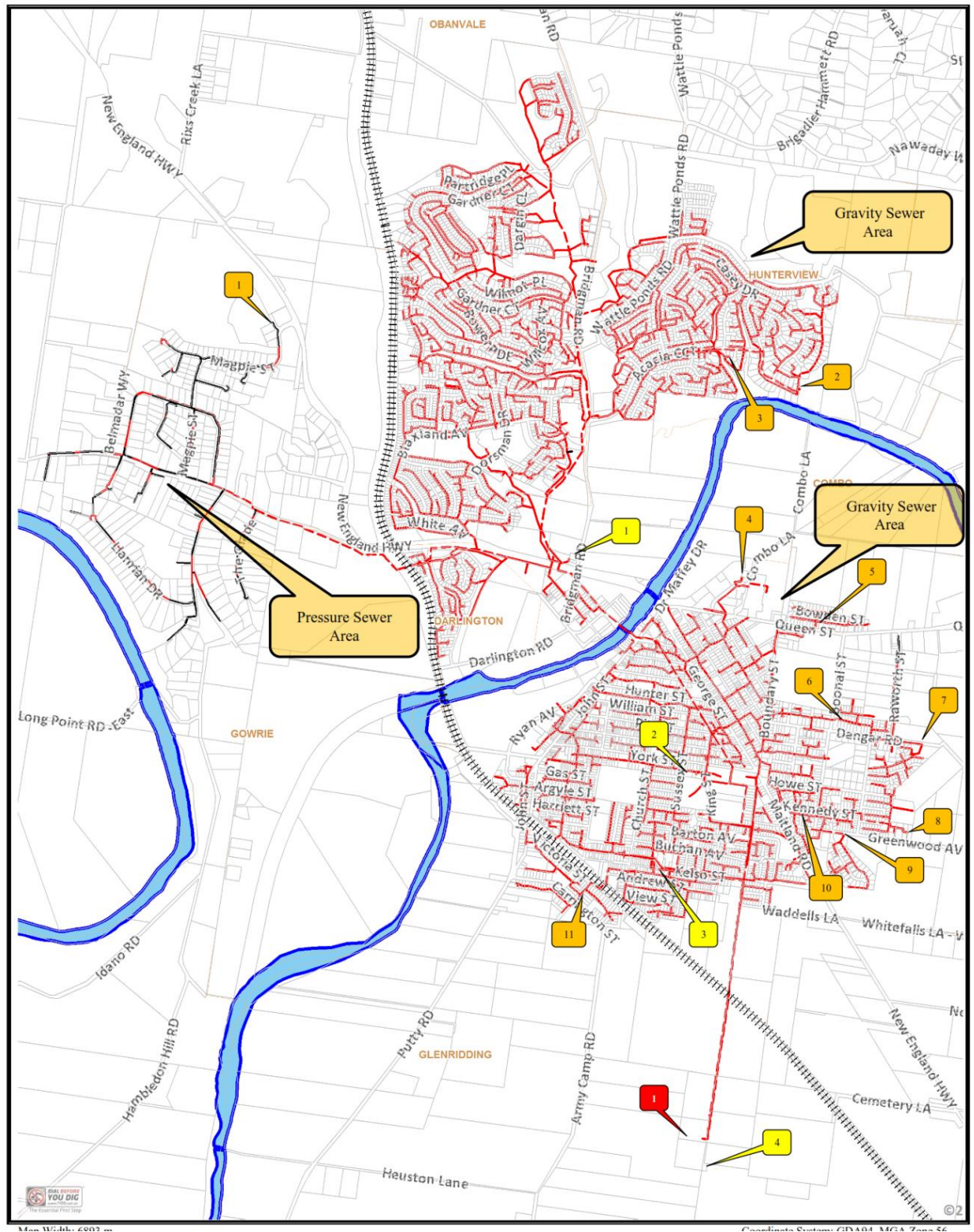






Figure 2 – Singleton Sewerage Network

## Asset Management Plan - Singleton Sewer Infrastructure Locations Map



## Glossary

Term	Meaning
ADWF	Average Dry Weather Flow
ADWG	Australian Drinking Water Guidelines – issued by the National Health and Medical Research Council.
Annual Demand	Total annual water consumption
AWWF	Average Wet Weather Flow
Best Practice Management	NSW Government's Best-Practice Management of Water Supply and Sewerage Guidelines, 2007 which are the key driver for reform of planning and management and performance improvement by the NSW local water utilities.
BOD <sub>5</sub>	Five day biochemical oxygen demand. Used as one measure of the 'strength' of sewage.
COAG	Council of Australian Governments
CPI	Consumer Price Index
Capital Works Plan	Plan which sets out timing, nature and estimated cost of proposed future capital works. Works for each of growth, improved standards and renewals separately identified.
Customer Service Plan	Plan for activities which interface between the utility, and its customers and the community.
DCP	Development Control Plan
DECCW	Department of Environment, Climate Change and Water (defunct- the environmental regulatory functions are now administered by the Environment Protection Authority, the environmental policy functions are regulated by the Office of Environment and Heritage, and the water and sewerage functions of DLWC are now administered by DPI Water).
DEUS	Department of Energy, Utilities and Sustainability (defunct- the water and sewerage functions of DEUS are now administered by DPI Water)
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development.
Discount Rate	The rate used to calculate the present value of money which will be spent or received in the future.
DLWC	Department of Land and Water Conservation (defunct- the water and sewerage functions of DLWC are now administered by the DPI Water)
DPI Water	Department of Primary Industries Water
DPWS	Department of Public Works and Services (defunct- the water and sewerage functions of DPWS are now administered by the DPI Water)
DSP	Development Servicing Plan
DWE	Department of Water and Energy (defunct- the water and sewerage functions of DPWS are now administered by the Office of Water, Department of Primary Industries)
EP	Equivalent Person
EPA	Environment Protection Authority of New South Wales.
ET	Equivalent Tenement (ie the equivalent load deemed to be imposed by a typical household)
Financial Plan	Plan which provides the utility's future projection of Typical Residential Bills in current (Year 1) dollars. It sets out the utility's financial objectives and Strategies and Actions to attain these together with the projected annual financial statements (income statement, balance sheet and cash flow statement).
FINMOD	The NSW Financial Planning Model. - A tool for long-term financial planning developed by the NSW Office of Water. The model enables a water utility to readily carry out a 30-year projection of its annual financial statements and Typical Residential Bill in current dollars and to quickly answer a range of 'what if' questions to determine the levels of service and asset management options which provide the best value for money for the community.
IPART	Independent Pricing and Regulatory Tribunal
IWCM	Integrated water cycle management - A 30-year strategy for water supply and sewerage, and where cost-effective stormwater, which identifies the scenario which provides the best value for money on a triple bottom line (TBL) basis, on the basis of social, environmental and economic considerations.
kL/d	Kilolitres per day (thousands of litres per day)
LEP	Local Environmental Plan

Term	Meaning
LMWUA	Lower Macquarie Water Utilities Alliance
LWU	Non-metropolitan NSW local water utility
MEERA	Modern Equivalent Engineering Replacement Asset (the equivalent modern asset which provides the same level of service as an existing older asset)
ML/d	Mega litres per day (millions of litres per day)
National Competition Policy	A suite of microeconomic reform policies adopted by the COAG from the 1990s
NHMRC	National Health and Medical Research Council
NOW	NSW Office of Water, Department of Primary Industries (Defunct- the functions of NOW are now undertaken by DPI Water)
NPV	Net Present Value – the net value of future income and expenses in today’s terms
OEH	Office of Environment and Heritage
OMA	Operation, maintenance and administration (costs)
Peak Day Demand	Highest water consumption on one day in a year.
Present Value (PV)	The equivalent value of future money today.
PS	Pumping Station
PWWF	Peak Wet Weather Flow
Real Terms	The value of a variable adjusted for inflation by a CPI adjustment.
ROI	Return on investment. Represents the income that is, or could be, generated by investing money.
Service Area	An area served by a separate water supply system, an area served by a separate sewage treatment works, a separate small town or village.
SR	Service Reservoir
SS	Suspended solids, or the concentration of particles in sewage. Used as one measure of the ‘strength’ of sewage.
STP	Sewage Treatment Plant
TBL	Triple Bottom Line (social, environmental and economic considerations).
TRB	Typical residential bill
WTP	Water Treatment Plant

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# 1 Introduction

## 1.1 Purpose of Report

Strategic Business Plans are intended to govern the long term operation of business entities within local councils. These plans form a companion to a council's Operations and Delivery Plans, which details the proposed activities of the council over the relatively short timeframe of three years.

This plan is designed to assist in the operation of Singleton Council's water supply and sewerage businesses.

Strategic business plans are a particularly useful tool for water supply and sewerage businesses for the following reasons:

- Water supply and sewerage businesses are very capital intensive. Assets are created and renewed over timeframes of 25 years to a century. The businesses need to be able to supply the required services and at the same time accumulate funds and service debt in a way that, as far as possible, minimises costs borne by the community and preserves intergenerational equity.
- Water supply and sewerage businesses provide an essential service which reduces risks to public health, but also utilises a limited natural resource. The businesses need to be able to respond to changes in the standards set by regulators in a way that reflects the financial realities of businesses dependent on high cost, long life assets.
- The NSW Department of Primary Industries Water (DPI Water) requires such plans be created to demonstrate the long-term viability of the businesses. Once this has been achieved, they may qualify to issue dividends to the business owner, and/or qualify for financial support for new capital works.

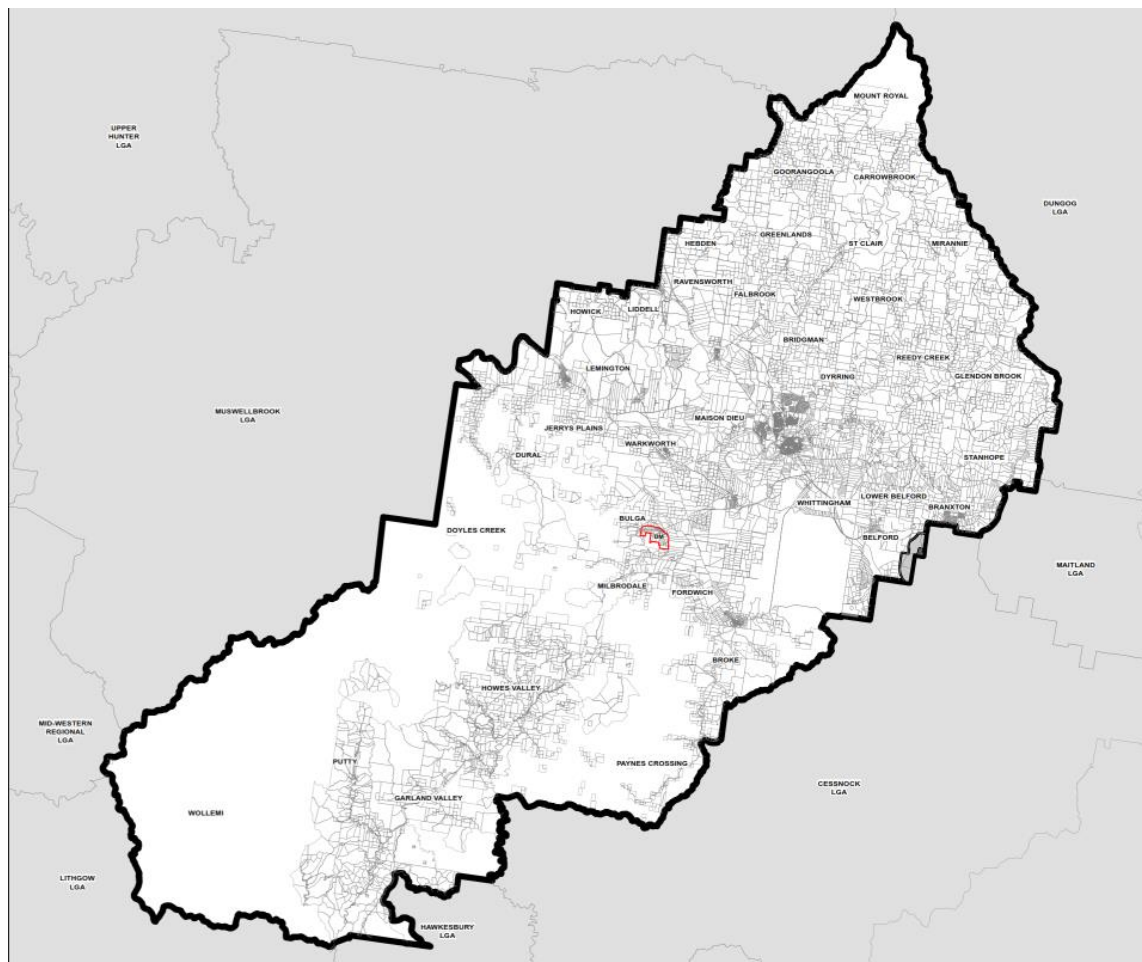
This strategic business plan addresses the long-term operation of the businesses by:

- Considering the current operating environment of the business (**section 2**).
- Reviewing the current capability of the business to provide services to the community, and proposing a future level of service (**sections 4, 5 and 6**).
- Reviewing the adequacy of the current asset base to provide the current and proposed future levels of service, and identify upgrades necessary to achieve or maintain the future level of service (**section 7**).
- Reviewing the human and financial resources required for the business to perform (**sections 8 and 9**).
- Identifying performance indicators to track progress against the objectives of the business.

Singleton Council will implement this plan, progressively updating and modifying it as knowledge improves and stakeholder requirements change.

Figure 3 shows the boundary of the local government area, with also is the boundary of Singleton Council's authority as a water and sewerage service provider.

**Figure 3 – Singleton Local Government Area**



## 1.2 Acknowledgements

This plan has been prepared by Mike Brearley and Jacqui Hansen of Collaborative Planning and Engineering Associates (CPEa), consultants engaged by Singleton Council to assist them in this process.

The development of this plan has extensively relied on knowledge and input of the staff of Singleton Council, particularly the Manager Water and Waste, Ms Angelika Hesse.

### **1.3 Disclaimer**

This document has been prepared for a particular purpose, using information made available by the client in accordance with the client's instructions. Users of this document should note the assumptions and approximations used. Any use of the document outside of the stated purpose is at the user's risk.

## **2 Operating Environment Review**

This chapter reviews the environment in which the businesses operate, being the circumstances of the Council they are part of and the community they serve.

### **2.1 Institutional arrangements, legislative framework and statutory/regulatory obligations**

The Singleton water supply and sewerage businesses are constituted as part of Singleton Council (referred to as “Council”) constituted under the Local Government Act 1993. Council reports to the Department of Primary Industries (DPI) Water on matters of utility performance. This performance includes operation, maintenance, pricing and customer satisfaction.

Council is a member of the NSW Water Directorate. The Directorate provides technical assistance, best practice manuals and representation to Government for the member utilities.

The management of water supply and sewerage services within Council is primarily the responsibility of the Assistant General Manager and Director-Community and Infrastructure Services. A Water and Waste Group has been created within the Directorate that is responsible for the day-to-day management of the businesses, which is managed by the Manager Water and Waste. Routine activities are conducted in-house with specialist external services procured as appropriate. The Water and Waste Group is supported by Council’s administration section to field public enquiries, manage billing and finances and other administrative functions such as records.

#### **2.1.1 Regulatory agencies**

The operation and treatment performance of the water and sewage treatment plants is monitored by DPI Water with regular biannual inspections.

The water supply business also reports to NSW Health on matters of drinking water quality.

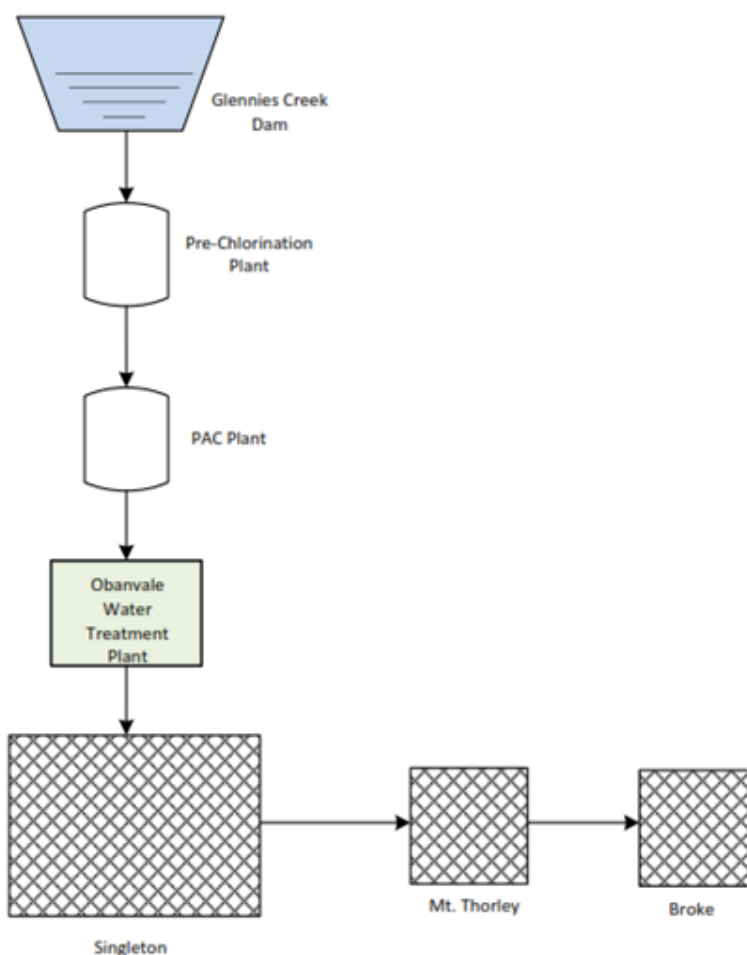
The sewerage business holds Environmental Protection Licence No 3088 for the Singleton Sewage Treatment System and must report against this to the NSW Environment Protection Authority.

DPI Water administers the Country Towns Water Supply and Sewerage Programme subsidy scheme, and is consulted regarding any significant upgrade or system augmentation works. Ministerial approval is required under the provisions of the Local Government Act for new water treatment, sewage treatment or effluent reuse systems.

Council sources its water from the Hunter River system via Glennies Creek Dam. Glennies Creek Dam is owned and operated by WaterNSW and is located about 25 kilometres from

Singleton. From the one water treatment plant in Singleton (Obanvale WTP), water is provided to Jerrys Plains, Broke, Mount Thorley and the army camp.

Figure 4 – Singleton Water Supply Schematic



### 2.1.2 Legislative framework

In managing its water supply and sewerage services, Council must work within a complex legislative framework. It is not the intention for this business plan to describe the Council's responsibilities under the various Acts and Regulations, but to list the legislation. It is the responsibility of the Councillors and the staff to inform themselves of the requirements of the legislation and their relevant responsibilities.

The major Acts that control the water supply and/or sewerage obligations include:

- Local Government Act 1993, in particular Sections 56 to 66.
- Independent Pricing and Regulatory Tribunal Act 1992
- Protection of the Environment Operations Act 1997
- Environmental Planning & Assessment Act 1979



- Catchment Management Authorities Act 2003
- Soil Conservation Act 1938
- Public Health Act 2010
- Fluoridation of Public Works Supplies Act 1957
- Water Act 1912 (largely repealed)
- Water Management Act 2000, including the Water Sharing Plan for the Hunter Regulated River Water Source 2004.
- Water Industry Competition Act 2006
- Work Health & Safety Act 2011

## 2.2 Situation analysis

The following are other factors which may impact on either the demand for services and facilities in Singleton Council's capacity to deliver the services demanded:

### 2.2.1 Compliance with Best-Practice Requirements

Local water utilities are strongly encouraged by DPI Water to move toward full compliance with "Best Practice Management of Water Supply and Sewerage Guidelines" as issued by the NSW Office of Water in 2007. Compliance with the Best Practice Guidelines is required to qualify for funding under the Country Towns Water Supply and Sewerage Program, or for Council to pay dividends to its General Fund.

The 2007 guidelines specify 6 criteria being:

- Strategic Business Planning;
- Pricing;
- Water Conservation;
- Drought Management;
- Performance Monitoring; and
- Integrated Water Cycle Management (IWCM).

Singleton Council is 100% compliant with the best practice requirements. Table 1 and Table 2 following describe Council's level of compliance with these requirements.

In July 2014, DPI Water released the "Water Supply and Sewerage Strategic Business Planning and Financial Planning Check List". All Strategic Business Plans must be prepared in accordance with the checklist. **Appendix A** contains a copy of this checklist and demonstrates compliance with the checklist.

Table 1 - Compliance with Best Practice Requirements for Water Supply

Best Practice Requirement – Water		Status
1. Strategic Business Planning		This document
2. Pricing		
• Full cost recovery without significant cross subsidies		Comply
• Complying residential charges with pay-for-use water pricing, independent of land values		Comply
• Complying non-residential charges		Comply
• Development servicing plan, commercial developer charges		Comply – DSP requires update
• At least 75% of residential revenue from usage charges		Comply
3. Water Conservation		Demand Management Plan completed - comply
4. Drought Management		Drought Management Plan completed.
5. Performance Monitoring		Comply annually - comply
6. Integrated Water Cycle Management		IWCM completed in 2010 – comply. A new IWCM will be prepared in 2016.

Table 2 - Compliance with Best Practice Requirements for Sewerage

Best Practice Requirement - Sewerage		Status
1. Strategic Business Planning		This document
2. Pricing		
• Full cost recovery without significant cross subsidies		Comply
• Complying residential charges with pay-for-use water pricing, independent of land values		Comply
• Complying non-residential charges		Comply
• Development servicing plan, commercial developer charges		Comply
• Complying trade waste fees and charges		Comply
• Complying trade waste policy and approval for all dischargers		Comply
5. Performance Monitoring		Comply annually
6. Integrated Water Cycle Management		IWCM completed in 2010 – comply. A new IWCM will be prepared in 2016.

## 2.2.2 Service Provision Review

Table 3 - Service Provision Review

KEY RESULT AREA	CURRENT POSITION	FUTURE POSITION
<b>LEVEL OF SERVICE</b>	<p>Water Supply</p> <ul style="list-style-type: none"> <li>Pressure &gt;12m head at a min of 6L/min/residential connection under normal conditions, &lt;90m static head.</li> <li>Water restrictions not applying for &gt; 10% of the time on average.</li> <li>Treated water that meets ADWG 2007</li> <li>Customer water service complaints 38/1,000 connected properties per year</li> <li>Customer water quality complaints 2/1000 connected properties/year</li> <li>Unplanned service interruptions are &lt; 12 hours</li> </ul>	<ul style="list-style-type: none"> <li>Water service complaints &lt;6/1000 connected properties/ year (Statewide median)</li> <li>Maintain current performance.</li> </ul>
	<p>Sewerage/Reuse Scheme</p> <ul style="list-style-type: none"> <li>Sewage effluent meets 90th percentile licence limits</li> <li>All sewer chokes removed and service restored within 8 hours</li> <li>&lt;0.9 odour complaint per 1000 connected properties per year</li> </ul>	<ul style="list-style-type: none"> <li>Maintain current performance.</li> </ul>
<b>SERVICE DELIVERY</b>	<ul style="list-style-type: none"> <li>Day-to-day operations are provided using in-house resources.</li> <li>Specialist contract services are utilised for non-routine activities such as reservoir inspections, mains cleaning &amp; programmed mains replacement</li> </ul>	<ul style="list-style-type: none"> <li>Maintain implementation of the recent service delivery review, particularly the preferred mix of day labour and contracted services</li> </ul>
<b>CUSTOMER SERVICE</b>	<ul style="list-style-type: none"> <li>Areas Served</li> </ul>	<ul style="list-style-type: none"> <li>Water supply is available to all properties within the town of Singleton.</li> <li>Council estimates that 95% of the town of Singleton is connected to sewer. Other properties are adequately managed using on-site sewage treatment systems.</li> <li>Water supply is available in the towns of Jerrys Plains, Broke, Mount Thorley and the Singleton Army Camp</li> <li>Current water supply facilities are satisfactory except for a small elevated area with low pressure</li> </ul>

KEY RESULT AREA	CURRENT POSITION	FUTURE POSITION
<ul style="list-style-type: none"> <li>Demand Management</li> </ul>	<ul style="list-style-type: none"> <li>Average annual residential water supplied per property for 2013/14 was 297 kL, which is above the State median of 173 kL and above the inland medium of 263kL.</li> </ul>	<ul style="list-style-type: none"> <li>Council will consider ways to reduce demand to bring it in line with the suggested figures by reviewing the effectiveness and implementation of its Demand Management Plan.</li> <li>Estimates of unaccounted water have averaged 8% since 2003. Losses in 2008/09 were 6.7% however Council aspires towards a figure of &lt;5%.</li> </ul>
<ul style="list-style-type: none"> <li>Pricing and Regulation of Services</li> </ul>	<ul style="list-style-type: none"> <li>There is full cost recovery without significant cross-subsidies.</li> <li>Council levies complying residential charges with pay-for-use water pricing and a uniform sewerage bill, independent of land value.</li> <li>Council levies complying non-residential charges.</li> <li>Council charges appropriate trade waste fees and charges for all liquid waste dischargers.</li> <li>A trade waste policy has been adopted and is in force.</li> <li>Council has a Development Servicing Plan with commercial developer charges.</li> <li>71% of residential revenue was sourced from water usage charges in 2014/15. Adopted 2015/16 charges will enable Council to achieve a 75%/ 25% split and meet best practice requirement.</li> </ul>	<ul style="list-style-type: none"> <li>Council will adjust tariffs annually to ensure continued full cost recovery without subsidies, and a compliant pricing structure.</li> <li>Development Servicing Plan updated to meet current guidelines.</li> </ul>
<ul style="list-style-type: none"> <li>Customer/Community Involvement</li> </ul>	<ul style="list-style-type: none"> <li>The community is currently consulted on revisions of this strategic business plan and on the annual operations and delivery plans</li> </ul>	<ul style="list-style-type: none"> <li>Council will continue to consult the community on revisions of this strategic business plan and on the annual operations and delivery plans</li> </ul>
<ul style="list-style-type: none"> <li>Environmental Protection</li> </ul>	<ul style="list-style-type: none"> <li>The sewage treatment system is operated in accordance with its licence.</li> <li>There are no outstanding environmental compliance matters in the water supply or sewerage businesses.</li> </ul>	<ul style="list-style-type: none"> <li>Council will continue to operate the sewage treatment system in accordance with licensed requirements</li> <li>Council will implement due diligence systems.</li> </ul>

KEY RESULT AREA	CURRENT POSITION	FUTURE POSITION
<b>TOTAL ASSET MANAGEMENT</b>		
<ul style="list-style-type: none"> <li>Integrated Water Cycle Management (IWCN) Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Council undertook an IWCN Evaluation in 2010 however this has not proceeded to a IWCN Strategy. Guidelines have since changed.</li> </ul>	<ul style="list-style-type: none"> <li>Council will prepare a new IWCN Strategy in 2016 in conjunction with Muswelbrook and Upper Hunter Councils</li> </ul>
<ul style="list-style-type: none"> <li>Operations</li> </ul>	<ul style="list-style-type: none"> <li>The current replacement cost (as at 30 June 2014) of water assets was \$130m, with \$1.8m annual depreciation charge and a written down current cost of \$83m. Mean useful life is 73 years and mean residual life is 45 years. .</li> <li>The current replacement cost (as at 30 June 2014) of sewerage and effluent reuse assets was \$69m, with \$890,000 annual depreciation charge and a written down current cost of \$44m. Mean useful life is 65 years and mean residual life is 31 years.</li> </ul>	<ul style="list-style-type: none"> <li>Rolling program of asset inspection.</li> <li>On-going program of asset renewals.</li> <li>Reduced wet weather inflow to the Sewage Treatment Plant through a sewer maintenance hole inspection and improvement program.</li> <li>Reliable corporate asset data</li> </ul>
<ul style="list-style-type: none"> <li>Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>There are documented maintenance procedures for various areas</li> <li>An inventory is kept of spares and operations manuals are available for plant and equipment</li> </ul>	<ul style="list-style-type: none"> <li>Improved documentation of maintenance procedures.</li> <li>Fixed interval maintenance practices for critical system components such as pumps and measuring equipment.</li> <li>Specialised maintenance works undertaken by suitably qualified contractors.</li> <li>Regional grouping initiatives.</li> </ul>
<ul style="list-style-type: none"> <li>Capital Works General</li> </ul>	<ul style="list-style-type: none"> <li>The existing capital works plan is comprehensive over the short to medium term.</li> </ul>	<ul style="list-style-type: none"> <li>Capital works plan is updated annually to reflect updated knowledge, including DSP revisions and data collected from condition inspections</li> </ul>
<ul style="list-style-type: none"> <li>Water</li> </ul>	<ul style="list-style-type: none"> <li>Water source is secure and permits the production of water which meets public health standards.</li> <li>A Drinking Water Management System has been completed and complies with ADWG 2011</li> </ul>	<ul style="list-style-type: none"> <li>Maintain current water source and quality management arrangements.</li> </ul>
<ul style="list-style-type: none"> <li>Sewerage</li> </ul>	<ul style="list-style-type: none"> <li>All sewage is tertiary treated and discharged to tertiary level.</li> <li>The sewage treatment system is operated in accordance with the conditions of its Environment Protection Licence.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain current sewage treatment practices, with ongoing enhancements to the plant</li> </ul>

KEY RESULT AREA	CURRENT POSITION	FUTURE POSITION
<b>WORKFORCE</b>	<ul style="list-style-type: none"> <li>The number of employees in Council's water supply and sewerage business is now comparable to other local water utilities.</li> <li>Major capital items are being undertaken now Council has adequate human resources to complete the work and/or manage the projects.</li> <li>Training and qualifications are appropriate to the work being undertaken and are being updated</li> <li>Council has a formal Management Plan in place.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous improvement review of business workflows and workplace procedures to streamline processes and to generate efficiencies.</li> <li>Finalisation of position descriptions and learning plans.</li> <li>Develop a succession plan and mentoring system.</li> <li>Continue to monitor and improve the WHS system.</li> <li>Leadership within the Upper Hunter Water Utilities Alliance</li> </ul>
<b>FINANCE</b>	<ul style="list-style-type: none"> <li>The business generates a high level of cash and investments.</li> <li>There are a number of vulnerabilities in the business. Whilst sewer fund is financially sustainable, water fund modelling is returning a negative economic real rate of return, which indicates that there may not be adequate assets to serve the long term needs of growth.</li> <li>Council's action in undertaking a Developer Servicing Plan (DSP) will resolve this issue by ensuring that there is a comprehensive planning framework in place to meet future growth. It is suggested that the financial modelling be updated after the DSP is complete.</li> <li>Until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bills for water fund and sewer fund.</li> </ul>	<ul style="list-style-type: none"> <li>A capital works plan that is optimised to meet the future growth and asset replacement needs</li> <li>All vulnerabilities addressed, supported by a positive economic real rate of return.</li> </ul>

## 2.2.3 Population growth

### 2.2.3.1 Growth Projections for Singleton Local Government Area

Council has adopted a growth rate of 1.1% population per year in its strategic planning documentation. It is recognised that growth is related to the growth of mining and associated activities, and the current down-turn in this industry is not reflected in the data. Due to the time



lag in census data, the impact of this down-turn could not be gauged. Future extrapolation of this data therefore needs to take this into consideration.

An analysis of information contained in Section 4.5 of Singleton Council's "Asset Management Plan– Sewage Treatment Network– Version 4.1 June 2015" demonstrates that there is a slowing of the growth rate. When compared with projections obtained from NSW Planning & Environment<sup>2</sup>, reproduced below, the figures confirm the projected slowing in the growth rate.

**Table 4 - Population forecasts for the town of Singleton**

Year	Population	Population Growth (%pa)	5-year Average Growth Rate (%)
<b>Information based on asset management planning</b>			
2001	21066		
2002	21356	1.4%	
2003	21671	1.5%	
2004	21886	1.0%	
2005	22254	1.7%	
2006	22535	1.3%	<b>1.2%</b>
2007	22663	0.6%	
2008	22860	0.9%	
2009	23063	0.9%	
2010	23335	1.2%	
2011	23523	0.8%	
2012	23785	1.1%	<b>1.0%</b>
<b>Projections provided by NSW Planning &amp; Environment</b>			
2016	24550	0.9%	<b>0.9%</b>
2021	25600	0.8%	<b>0.8%</b>
2026	26500	0.7%	<b>0.7%</b>
2031	27350	0.6%	<b>0.6%</b>

### 2.2.3.2 Growth Projections used for Financial Modelling

The financial planning section of this document analyses the actual growth in connections to the water supply and sewerage network (Refer to Section 9.5), as this differs slightly from the general population trends. The actual growth in connections to the water supply and sewerage networks is used for the purposes of financial modelling, and a 1%pa growth rate is adopted for the base case. The impact of a reduction in dwellings growth is assessed through a sensitivity analysis of 0.5%pa growth in connections.

### 2.2.4 Demographic Change

The percentage of older (65+) persons in the Local Government Area (LGA) is forecast to increase. This is anticipated to have little change on the demand for services with the exception that there may be an increase in the number of special customers. This will have implications for the pricing of services, as the proportion of customers qualifying for pensioner concessions increases.

<sup>2</sup> New South Wales State and Local Government Population, Household and Dwelling Projections: 2014 Final

### **2.2.5 Industry Change**

There is anecdotal evidence that the mining and power generation industries are currently in a downturn. This doesn't necessarily imply that the Singleton population will decline but there may be a change in industry focus and work is redistributed across possible new industries. Because of the currency of this downturn, the impacts are currently too early to predict and any assumptions based on population projections needs to anticipate what impacts these changes might have.

Water supply and sewerage infrastructure needs are impacted by the economic situation. For example a downturn in mining can impact the occupancy rates and rate of future development.

### 3 Mission Statement

The water supply and sewerage business units form part of the broader Singleton Council. As a provider of essential services to the urban parts of Singleton's community, the water supply and sewerage businesses adopt the vision and mission of the Council.

Council's Vision Statement is:

"Singleton. A progressive community of excellence and sustainability."

Council's Mission Statement is:

"To provide quality services to the community in an efficient and friendly manner encouraging responsible development."

In addition, the Mission Statement for the provision of water and sewerage services is:

***To provide cost effective water supply and sewerage services to the serviced areas of Singleton Council that meet the Levels of Service to which customers have agreed, and for which they are prepared to pay, and which satisfy all statutory requirements. The services will be provided equitably and in a commercial manner, taking into account the values of the broader community as articulated in Council's Vision and Mission. The services will be environmentally sensitive, promote ecological sustainability within the areas of operations, protect public health and make best use of regional resources.***

The serviced areas for Singleton's water supply include both industrial and residential customers

- Singleton Town (Residential & Commercial)
- Retreat Estate (Rural Residential)
- Bulga
- Camberwell
- Mount Thorley (Industrial Area)
- Broke
- Maison Dieu (Rural Residential)
- Jerrys Plains
- Singleton Army Camp (Bulk Supply)
- Singleton Abattoir (Bulk Supply)
- Bulga Coal (Bulk Supply)
- Mount Thorley/Warkworth Mines (Bulk Supply)
- Integra Coal Mine (Bulk Supply)

The sewerage serviced area covers Singleton, Glenridding, Singleton Heights, The Pinnacle, Hunterview and Darlington. The Maison Dieu area is connected to a pressure sewerage system servicing industrial and residential customers.

## 4 Levels of Service

Establishing a target level of service is a critical process in the development of strategic business plans. The level of service proposed to be provided to customers has a significant effect on the asset management, workforce and financial requirements of LWUs. Good strategic planning will seek to optimise the trade-off between the level of service provided and the cost of the service to customers.

Within the context of this strategy, there are a number of ‘customers’ that need to be considered when establishing the level of service:

- The customers of the LWUs (i.e. the recipients of the water supply and sewerage services)
- The community at large, who promote their objectives through tools such as legislation and conditions for financial support. These standards include the fields of:
  - Public health;
  - The environment;
  - Work, health and safety; and
  - Microeconomic policy.

As a result, the level of service carries numerous parameters. Some parameters, such as the response times to complaints and service faults, are direct customer experiences which are readily measureable from year to year. Other parameters, such as security of supply, cannot be directly measured, but are an essential input to design and asset management processes if the level of service provided to customers is to be maintained on a sustainable basis.

### 4.1 Level of Service - Water Supply

Council has reviewed the levels of service documented in the Asset Management Plans for Water Supply Services (Version 4 - June 2015) and Sewage Treatment Network (Version 4.1 – June 2015). These levels of service will be maintained and are listed below:

Table 5 - Level of Service – Water Supply

LEVEL OF SERVICE	
<b>AVAILABILITY OF SUPPLY</b>	
Service coverage	Connections provided to all houses, units or businesses within the defined service area.
Pressure at Critical Locations	<b>At least 12m head at a flow of 6L/min and a maximum of 90m head.</b>
Duration, frequency and severity of drought water restrictions	<ul style="list-style-type: none"> <li>• Restrictions not applied for &gt; 5% of the time</li> <li>• Restrictions not imposed more often than 1 in every 10 years on average</li> <li>• Ability to supply 90% of normal demand (i.e. 10% reduction in consumption) through a repeat of the worst drought on record</li> </ul>
Peak Daily Demand Capacity	At least 3,000 L/tenement/day

LEVEL OF SERVICE	
Length of supply interruption	<b>PLANNED</b> Domestic customers receive 1 days written notice; industrial customers receive 2 days written notice
	<b>UNPLANNED</b> Not to occur more than 2 times per year nor last longer than 6 hours
Water for Fire-Fighting	Water will be available from reticulation fire hydrants for fire-fighting at minimum flow rates determined by guidelines for specific development types as set out in LG Regulations and the conditions established by the NSW Fire Brigade.
<b>WATER QUALITY</b> (Should meet Australian Drinking Water Guidelines NHMRC & NRMCC 2011) <sup>3</sup>	
Compliance with chemical and microbial standards	<b>POTABLE WATER SUPPLY</b> Meets ADWG 2011 and ADWG 2004. Customer complaints <5 per 1000 properties per annum
<b>RESPONSE TIME TO CUSTOMER COMPLAINTS OF SUPPLY FAILURE</b> (90 <sup>th</sup> percentile) (Defined as the elapsed time to have staff on site to commence rectification of the problem)	
Supply failure by category	<ul style="list-style-type: none"> <li>30mins (during work hours)</li> <li>90 mins (where practicable) (outside work hours)</li> </ul>
<b>CUSTOMER COMPLAINTS &amp; GENERAL INQUIRIES</b> (i.e. other than supply failure)	
	<ul style="list-style-type: none"> <li>Respond to 100% of written complaints within 10 working days</li> <li>Respond to 100% of personal complaints</li> </ul>
<b>SPECIAL CUSTOMERS</b>	
	Negotiate specific levels of service and associated charges with individual customers

## 4.2 Level of Service – Sewerage

Table 6 - Level of Service – Sewerage

PROPOSED	
<b>AVAILABILITY</b>	
Service coverage	<ul style="list-style-type: none"> <li>Connections for domestic sewage provided to all houses, units or businesses within the defined service area</li> <li>Acceptance of commercial and industrial (trade) wastes in accordance with approved conditions for each discharger</li> </ul>

<sup>3</sup> the current NSW Water & Sewerage Strategic Planning Guidelines require health related aspects of water quality such as chemical and microbiological water quality compliance to meet Australian Drinking Water Guidelines 2004 (ADWG). Council has elected to meet the more recent 2011 ADWG on the basis that they are likely to be incorporated into the requirements at some time in the near future.

PROPOSED	
<b>SYSTEM FAILURES</b>	
Number of failures per annum	<ul style="list-style-type: none"> <li>• <b>Category 1</b> Controlled, expected (overflow structure) – related to rainfall and design: <ul style="list-style-type: none"> <li>○ Zero</li> </ul> </li> <li>• <b>Category 2</b> Failures due to pump or other breakdown including power failure: <ul style="list-style-type: none"> <li>○ Not more than once in 5 years (there are no flow relief structures)</li> </ul> </li> <li>• <b>Category 3</b> Failures due to blockages: <ul style="list-style-type: none"> <li>○ Less than 10 per 1000 customers per year</li> </ul> </li> </ul> <p>Note: These differ from the standard levels of service contained in the Guidelines</p>
<b>RESPONSE TIMES (90<sup>th</sup> percentile)</b>	
Supply failure by category	<p><b>Priority 1</b> – A major spill, significant environmental or health impact, or affecting a large number of consumers ie A major main</p> <ul style="list-style-type: none"> <li>• 30 mins (working hours) or 90 mins (after hours).</li> </ul> <p><b>Priority 2</b> - A minor failure to contain sewage within the sewerage system or any problem affecting a critical user at a non-critical time</p> <ul style="list-style-type: none"> <li>• 30 mins (working hours) or 60 mins (after hours)</li> </ul> <p><b>Priority 3</b> – a minor spill, little environmental health impact, or affecting a couple of consumers.</p> <ul style="list-style-type: none"> <li>• 30 mins (working hours) or 90 mins (after hours) where practical.</li> </ul> <p>Note: These differ from the standard levels of service contained in the Guidelines</p>
<b>GENERAL COMPLAINTS</b>	
Customer Complaints	<p>Minor operational problem, complaint or enquiry that can be dealt with at a time mutually convenient to both the customer and council</p> <ul style="list-style-type: none"> <li>• Respond to 100% of written complaints or inquiries within 10 working days</li> <li>• Respond to 100% of personal complaints or inquiries within 1 working days</li> </ul>
<b>IMPACT OF SEWAGE TREATMENT PLANT AND PUMPING STATIONS ON SURROUNDING RESIDENTS</b>	
	<ul style="list-style-type: none"> <li>• Background noise level not more than 5dB above background noise level</li> <li>• Odour not detectable outside the utility's buffer zone around the treatment works</li> <li>• Failure of the STP resulting in noticeable environmental impact <ul style="list-style-type: none"> <li>○ Zero</li> </ul> </li> <li>• Failure of pumping station resulting in noticeable environmental impact <ul style="list-style-type: none"> <li>○ Zero</li> </ul> </li> </ul> <p>Note: These differ from the standard levels of service contained in the Guidelines</p>
<b>EFFLUENT DISCHARGE/ BIOSOLIDS MANAGEMENT</b>	
No of failures to meet standards - marginal and significant	Minimum performance standards met as set by regulatory requirements and regulations through licensing.



## 4.3 Action Plan

Table 7 - Action Plan for Levels of Service

Business	Objectives	Proposed measures	Provider, cost	Target date
Water supply	Ensure that drinking water meets ADWG 2011	Use the Drinking Water Quality Management System to monitor compliance with ADWG 2011	SC – staff time	Ongoing
Sewerage	System Operation meets the adopted level of service	Monitor resources and systems to ensure that response time comply	SC – staff time	Ongoing

## 5 Service Delivery

### 5.1 Current service delivery regime

As at June 2015, Council's combined Water Supply and Sewerage businesses employs 22 Full Time Equivalent (FTE) staff on a permanent basis.

The Water Supply and Sewerage business is divided into three parts as described below:

- **Operations** - this sub-section currently has ten full time staff members.
- **Planning and Process** - this sub-section has five full time staff members
- **Projects and Development** - this sub-section has three full time staff members

Council's structure includes an engineer to manage each of these sub-sections in addition to the manager of the Water and Waste Section, an administrative assistant and an education officer. Council also employs a Liquid Trade Waste Officer and Assistant Liquid Trade Waste Officer. Projects and other major undertakings are undertaken by contractors, engaged as required under contractual agreements of various forms.

The January 2014 the Independent Local Government Review Panel proposed the following principles for Service Reviews<sup>4</sup>:

- I. A council must achieve continuous improvement in the provision of services and seek to ensure that its services are equivalent to 'best on offer' in its region
- II. All services provided by a council must meet defined performance outcomes and quality and cost standards developed by the council in consultation with local communities and key stakeholders
- III. As part of service reviews, a council must explore the potential for partnerships with adjoining or nearby councils, as well as other public or private service providers
- IV. Service reviews must take into account the importance of maintaining and where possible increasing local employment opportunities
- V. Each service provided by a council must be accessible to those members of the community for whom the service is intended
- VI. A council must report regularly to its community on its achievements to these principles.

It could be expected that these principles would flow over into future service reviews undertaken by Council.

### 5.2 Options for alternate delivery

A summary of the service delivery options is shown in Table 8. The sections below confirm the strategy associates with each of these options.

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<sup>4</sup> Box 16, P56 *Revitalising Local Government: Final Report of the NSW Independent Local Government Review Panel*, October 2013

Table 8 – Service Delivery Options

Service Delivery Option	Method of Delivery	Description	Actions
A1	In-house resources (full time)	Delivery of services using day labour, operating from Council works depot.	Increase in-house resources. Refer to Workforce Planning section
B1	External procurement	Quotations and purchase order for relatively low cost one-off services (<\$150,000)	Increase project management resources and package up larger contracts
B2	External procurement	Tendering leading to a formal contract (>\$150,000). These contracts can be for either single projects or panel contracts	Increase project management resources and package up larger contracts
B3	External procurement – Regionalisation	Accessing contracted services procured through regional collaboration	Regional procurement initiatives through Upper Hunter Water Utilities Alliance or Hunter Councils Regional Procurement.

### 5.2.1 External Procurement - Contracting

Where the requisite skills or other resources are not available in-house, services can be contracted. This applies not only to capital works but also to ongoing or non-routine maintenance activities such as electrical work, works requiring a licensed plumber or mechanical overhauls e.g. pumps, motors or aerators and specialised activities such as diving in reservoirs for internal condition assessment.

Contracting is a reasonable option that enables Council to buy in services where it doesn't have the requisite resources or expertise in house. This particularly applies to one-off or major projects where the necessary resources may not even be available in the local area.

When Council chooses to purchase services by contract, it needs to ensure it is capable of adequately procuring, supervising and managing the contract.

In the case of all contracts, Council needs to be mindful of the requirements of the Local Government tendering regulations. For routine minor contracts Council may choose to publicly invite registrations of interest with the objective of establishing a list of approved contractors e.g. electricians or plumbers that can provide services at short notice. For more major or one off projects Council may have to seek quotations or go through a formal tendering process (depending on the value of the work) on a project specific basis. For some services Council can

utilise panels established by the NSW Government Procurement Board or LG Procurement (an arm of Local Government NSW).

### 5.2.2 In-house resources

A Council needs to determine the appropriate size of its workforce. In 2014, Singleton Council undertook a comparative analysis and determined that staff numbers were well below the median of other similarly sized councils. Anecdotal evidence suggested that a lack of human resources was leading to on-going deferral of major capital projects and an unhealthy reliance on highly paid long term contractors. Council subsequently developed a new structure for the water supply and sewerage businesses. Staff were recruited to fill the new positions during 2015. Council now appears to have adequate human resources to respond to urgent matters whilst still undertaking important strategic planning and there is no longer a dependence on high-cost, long-term contract labour.

### 5.2.3 Regional Collaboration Initiatives

Regional collaboration is a focus of the “Revitalising Local Government” report of 2013. The Upper Hunter Water Utilities Alliance presents an excellent opportunity to strengthen collaboration with neighbouring local water utilities. Council is presently working with Upper Hunter and Muswellbrook Councils on a joint tender for new IWCM Plans and several other mutually beneficial share procurement opportunities.

Council plays a leadership role in the Upper Hunter Water Utilities Alliance and will continue to explore opportunities for regional collaboration.

## 5.3 Action Plan

Table 9 - Action Plan for Service Delivery

Business	Objectives	Proposed measures	Provider, cost	Target date
Water Supply & Sewerage	Service delivery methods selected are based on the ‘best on offer’	Monitor the cost efficiency and time performance of project delivery	SC	Ongoing
		Build alliances with neighbouring councils to share resources and to streamline procurement where feasible	SC and neighbouring councils	Ongoing

## 6 Customer Service Plan

This Customer Service Plan relates to those activities that involve interaction between Singleton Council, its water and sewerage customers and the wider community.

Specifically, it addresses:

- The level of service provided to customers;
- The current and future areas of the local government area to which Council provides water and sewerage services;
- The management of demand for water, including during times of drought;
- The pricing and regulation of water supply, sewerage and trade waste services;
- Contributions from developers towards the provision of new and existing assets;
- How Council goes about consulting with customers and the community in making decisions; and
- Protection of the environment and sustainable development.

### 6.1 Objective

The objective of this sub-plan is to provide water supply and sewerage services in a sustainable manner consistent with the standards adopted by the community by:

- Water supply and/or sewerage services extended to all remaining unserved areas where economically feasible
- Wastage of water is reduced
- Wet weather hydraulic sewage loading is reduced to its economic limit
- Customers are satisfied with the service delivered
- A high level of community consultation and involvement in the delivery of water supply/sewerage services. Such community consultation is to be undertaken prior to any significant decisions
- An ecologically sustainable system whose environmental impacts, especially in sensitive areas, are acceptable to the community.

### 6.2 Level of service review

The levels of service discussed in Section 4 relate to the performance of Council's water supply and sewerage businesses against targets that achieve at least the minimum standards identified in the *NSW Water and Sewerage Strategic Business Planning Guidelines*.

This section reviews the actual services provided by Council and seeks to identify areas for improvement.

Council participates in DPI Water's performance monitoring programme of Local Water Utilities. Participation in such a programme is a requirement of National Competition Policy and the National Water Initiative.

DPI Water provides three products from the data provided by the Local Water Utilities:

- A publicly available performance monitoring report which provides a suite of indicators for each Local Water Utility for a given financial year.
- A publicly available benchmarking report containing broader data, but organised to facilitate the identification of trends over time for a given utility, and allowing for performance to be compared between utilities.
- A customised 'report card' issued to each local water utility, highlighting significant deviations in indicators compared to state-wide medians and showing detailed trends for a number of key indicators. The latest triple-bottom-line (TBL) report for the Singleton Water and Sewerage Utilities is provided in Section 10.

Council has generally performed well and is compliant with the NSW DPI Water Best Practice Guideline criteria.

### 6.3 Areas serviced

The current and proposed servicing arrangements are summarised in Table 10.

Water supply and sewerage services are provided by Council within the urban area of the town of Singleton. Potable water is reticulated to the villages of Jerrys Plains, Broke, Mount Thorley and the Singleton Army Camp. These villages/localities do not have a sewerage system, but are serviced by on-site sewerage systems. Council currently supplies non-potable water to the villages of Bridgeman, Mount Olive, Obanvale, St Clair and Wattle Ponds. Council has recently declared these supplies as non-potable water supplies and is considering measures to bring these water supplies up to the standards required by the NSW Department of Health.

Table 10 - Current and proposed servicing arrangements

Centre	Centre classification	Population	Current services	Service proposals
Singleton	Urban Centre	14,479	Potable water Sewerage	Maintain.
Jerrys Plains	Village	688	Potable water	Maintain
Broke	Village	260	Potable water	Maintain
Mount Thorley	Village	181	Potable water	Maintain
Singleton Army Camp	Defence installation		Potable water (bulk supply)	Maintain.
Bridgeman	Village		Non-potable water	Consider upgrade.
Mount Olive	Village	238	Non-potable water	Consider upgrade.
Obanvale	Village		Non-potable water	Consider upgrade.
St Clair	Village		Non-potable water	Consider upgrade.
Wattle Ponds	Village	1323	Non-potable water	Consider upgrade.

Centre	Centre classification	Population	Current services	Service proposals
Bulga	Village	358	Not serviced	Potable water supply.
Camberwell	Village	181	Not serviced	Potable water supply
Balance of local government area	Rural		Not serviced.	Maintain.
<b>Total LGA</b>		<b>23,615</b>		

It is the intention that every community with more than 50 residents should have access to potable water. To this end the capital works plan includes water supply treatment expansion within the villages of Jerry's Plains and Broke. Works to the estimated value of \$500,000 per village are proposed for 2015/16.

In late 2015, Council applied for grant funding to install decentralised water treatment plants to the villages of Bulga and Camberwell. The total value of these new projects is \$6.5M with work scheduled to commence in 2017/18.

It is recognised that additional pressure can be placed on on-site sewage treatment systems when a town water supply is provided. Because of the readily availability of water in these circumstance, water conservation pressure may not be evident and accordingly some on-site systems may be under-designed for this level of water usage. This can lead to inadequate treatment and water-logging of the discharge areas, particularly in wet periods of the year. Council undertakes inspections of these systems. In areas where issues are significant, Council will consider the provision of sewerage where a cost-effective solution is available.

Outside of urban areas it is not economically feasible or environmentally desirable to provide reticulated water supply and/or sewerage services. These areas are best managed using on-site water and wastewater management systems. There are no systemic issues with the management of on-site water and wastewater management systems.

Growth in demand for these services will depend on a number of factors, including:

- Growth in urban and rural populations;
- Industrial development including agriculture;
- Environmental impacts including security of supply;
- Affordability.

Key principles to follow in the delivery of expanded services include:

- Treating all residential customers equally
- No cross-subsidy between residential and non-residential customers
- Community consultation and input into the determination of service standards, in conjunction with the cost of providing the service.



## 6.4 Demand management

### 6.4.1 Water Supply

During 2013/14 average residential water supplied per residential property was 297 kilolitres. The state median was 263 kilolitres for inland LWUs. Water consumption is above the median, reflecting the drier conditions experienced when compared with the higher populated coastal areas.

A formal Demand Management Plan known as the Singleton Water Conservation Strategy was adopted in, and implemented from, 2010. The water conservation initiatives currently in place include:

- Progressive development and implementation of an appropriate pricing policy aimed at achieving 75% of revenue via usage charges.
- Participation in water use efficiency programs including rebates on the installation of dual flush toilets and rainwater tanks.
- Active participation in the Savewater program.
- Implementation of a water loss program.
- Supply of water conservation material to ratepayers via brochures, newsletters, rate notices, a dedicated website and purpose specific advertising.
- Implementation of water restrictions, as required.

Table 11 - Demand Management Initiatives (Source: Singleton AMP)

Demand Driver	Impact on Services	Demand Management Plan
New Developments	Reduced water demand	Provision of rainwater tanks for new dwellings
All dwellings	Reduced water demand	Encourage (subsidise) installation of water efficient devices in dwellings.
Population growth and demographic changes	Reduced water demand	<ul style="list-style-type: none"> <li>• Education and awareness programs</li> <li>• Progressive development and implementation of an effective pricing policy aimed at achieving 75% of revenue via usage charges.</li> <li>• Participation in water use efficiency programs including rebates on the installation of dual flush toilets and rainwater tanks.</li> </ul>
Weather conditions	Potential increase in Water Demand.	<ul style="list-style-type: none"> <li>• Implementation of a water loss program</li> <li>• Implementation of water restrictions, as required.</li> </ul>
Water loss	Increase in water usage	<ul style="list-style-type: none"> <li>• Leak detection and water loss correction program implementation</li> <li>• Theft prevention program</li> </ul>

Demand management measures will be reviewed as part of the proposed Integrated Water Cycle Management Plan.

### 6.4.2 Sewerage

The objective of demand management for the sewerage system is to reduce wet weather hydraulic loading to the economic limit.

This is achieved through eliminating illegal connections and ensuring the integrity of the gravity reticulation system. Council is implementing the following actions:

- Institute a system of education, routine inspections and smoke testing to locate and eliminate illegal connections, targeting areas which are likely to reduce
- In conjunction with the asset management strategy, identify and rectify pipes that are failing and allowing infiltration into the sewerage system.

## 6.5 Drought Management

Council's *Drought Management and Emergency Response Plan* (DMERP) was prepared in 2010. It is a comprehensive document which describes and details how Singleton Council will manage its water supply during periods of drought. **A review of this document is contained in Appendix C.**

The version of the Plan available on Council's website is the 2010 version. It was proposed that the Drought Management and Emergency Response Plan (DMERP) be reviewed annually and any revisions recorded on a Record of Document Control.

Whilst the current DMERP is a thorough and detailed document, and most of the information contained within is still very relevant today, it is missing some of the newer requirements, such as a graph of the water demand over time with super-imposed restriction periods, storage/ground water level and relevant climatic data since the last version.

Drought Management now forms part of the Strategic Business Planning process, and it is recommended that this section be revised after the release of the replacement Water Sharing Plan for the Hunter Regulated Water Source (due 1 July 2016). The updated version should be prepared in accordance with latest requirements of NSW DPI Water.

## 6.6 Drinking water quality management

The purpose of a Drinking water management system (DWMS) is to apply a risk-management approach to assuring drinking water quality. The DWMS was completed in July 2014.

In the DWMS, the Council has:

- provided details of its water supply infrastructure.
- assessed the hazards and hazardous events that may affect water quality
- undertaken a risk assessment and documented the process for managing these risks
- outlined day-to-day operational requirements, including:
- outlined how mandatory criteria will be monitored
- outlined how operational and verification monitoring will be conducted, and

- outlined reporting arrangements to ensure safe water.

As the DWMS was completed in July 2014, it is a contemporary document and does not require a formal review at this time. It complies with current legislation. It was placed on public exhibition during 2014.

Council provides detailed information on water treatment and quality on the Council website, covering topics such as quality and testing (discolouration and hardness), the processes used at Council's water treatment plant and the safety of asbestos cement water pipes. There is also a series of questions and answers relating to drinking water quality.

## 6.7 Pricing and regulation of services

### 6.7.1 Access and usage charges

Council's asset strategy for water charges has established that the total income generated is sufficient to meet all of long term operations, maintenance, asset renewal and new infrastructure costs associated with the provision of water supply services. Financial planning seeks to adjust the price path so that current and future customers are treated equitably and the business is financially sustainable in the long term.

Current charges in Singleton for water supply (2015/16) are shown in Table 12.

Table 12 – Water supply charges for 2015/16

Meter size.	Base Charge (access) (\$)	Usage Charge (\$ per kilolitre)	
		Up to 450kL per annum	Over 450kL per annum
<b>Residential</b>			
Access Charge	153.50		
20mm	153.50		
25mm	238.00	<b>1.35</b>	<b>2.45</b>
32mm	391.40		
40mm	612.85		
50mm	956.90		
<b>Non-Residential</b>			
Access Charge	153.50		
20mm	153.50		
25mm	237.95		
32mm	391.40	Business, commercial and non-rateable properties not subject to the step usage charge. Same rate for all kL.	
40mm	612.85		
50mm	956.90		
65mm	1617.10		
80mm	2450.70		<b>1.40</b>
100mm	3817.20		
150mm	8567.55		

Council has applied a user pays pricing to all sewerage users since the 2008 DPI Water guidelines, which requires all sewerage and liquid trade waste customers to pay usage based bills.

Council's residential sewerage customers pay a uniform annual charge. The uniform base charge for 2015/2016 is \$495.

For non-residential customers, sewerage bills are to be not less than residential bill and are based on a two part tariff – an annual access charge and a uniform sewerage usage charge per kilolitre discharged.

The sewerage access charge is proportional to the area of the water connection to reflect the load that can be placed on the sewerage system, and the usage charge reflects the marginal costs of Council's sewerage business. It is applied to the estimated volume discharged into the sewer system. The method by which this is achieved is by the use of a sewerage discharge factor (determined for each business type) as detailed in Council's Operational Plan for 2015/16.

The uniform base charge for 2015/16 is \$495.

Local water utilities which have implemented all of the Best-Practice Management requirements are encouraged by DPI Water to pay an 'efficiency dividend' from the surplus of their water supply and sewerage businesses to the Council's general revenue. This water supply and sewerage business has implemented all of the best practice requirements and consequently pays an annual dividend to Singleton Council.

#### **6.7.1.1 Water supply**

Council's customers are charged for services based on an inclining block tariff:

- An access charge based on the size of the water meter. This charge is representative of the capacity of the water supply service to provide a water service to the property.
- A usage charge based on actual quantity of water delivered to the property. This usage charge is in two parts; volume less than 450kL/annum and over 450kL/annum.

The rates charged differ between Singleton and the village areas served, plus non-residential customers pay the same access tariffs as domestic consumers and the same usage charge without the "step" for consumption above 450kL. Vacant (non-developed) properties in the service area are charged a tariff equivalent to the access charge for a minimum size water meter (20 millimetres diameter).

Singleton Council's water supply service has approximately 6,700 customers. The NSW Best Practice Guidelines require that, for LWUs servicing this number of customers, at least 75% of residential revenue be raised through usage charges. In 2014/15, 71% of revenue was from usage charges.

Circular LWU 11 of March 2011 simplifies pricing requirements by removing the need for Council to adopt a residential inclining block tariff and introduces a ‘deeming provision’ which will enable Council to meet the 75%/25% split and full cost recovery. The adopted 2015/16 charges are designed to meet best practice requirements. In future revisions of the charges, Council may consider changing its pricing structure to a conventional two-part tariff, where the usage charge is flat and not stepped as is currently the case. This would provide more certainty for Council on water fund income.

#### **6.7.1.2 Sewerage**

Singleton Council charges residential customers an annual charge per dwelling, in accordance with Best Practice requirements.

Council’s non-residential and community customers are charged for services based on a two-part tariff:

- An access charge based on the size of the water meter. This charge is representative of the capacity of the sewerage service to receive sewage from the property.
- A usage charge based on deemed quantity of sewage discharged from the property. The deemed discharge from the property is based on the metered water consumption, reduced by a Sewerage Discharge Factor (SDF) representing the proportion of water delivered which is then discharged to the sewerage system.

#### **6.7.2 Liquid trade waste**

In accordance with Council’s Liquid Trade Waste Policy adopted in June 2012, sewerage customers may also hold approvals to discharge liquid trade waste to sewer. Most approvals require pre-treatment in approved equipment before discharging to sewer. These assessments are liable to pay additional trade waste access and usage charges in accordance with the guidelines, as the trade waste discharges impose additional maintenance and treatment requirements.

Council’s liquid trade waste customers are subject to the following charges:

- Application fees, based on discharger category; (Classification 1- \$298.70 for 2015/2016)
- Annual fees, based on discharger category; (\$92.10 for 2015/2016)
- Reinspection fees, in the event of a non-compliance being detected; (\$150 for 2015/2016)
- Usage fees, varying by discharger category and conformance with pre-treatment standards. (\$1.52/kL for 2015/2016)

Council’s Liquid Trade Waste Policy and charges conform to Appendix I of the *Liquid Trade Waste Regulation Guidelines* 2009. As required, Council provides an annual report to the DPI Water on the trade waste dischargers approved for the year.

Council also levies charges on customers delivering greasy and septic wastes to the sewage treatment plant.

### **6.7.3 Developer contributions**

Council is currently preparing a new Development Servicing Plan which will define the level of contributions payable when development takes place. The regulatory document in force is the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2002)* issued by the Minister for Land and Water Conservation, pursuant to Section 306(3) of the *Water Management Act 2000*.

In August 2012 the NSW Office of Water released *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, 2012 – Consultation Draft*. The draft Guidelines proposed changes to some of the calculation methods and presentation of Development Servicing Plans. These Guidelines will be taken into consideration where they are consistent with the current Developer Charges Guidelines.

It is expected that the draft Development Servicing Plan will be completed in 2016.

## **6.8 Community consultation**

Singleton Council, as a local government is an entity governed by Councillors elected by the community to represent the community's interests. The Integrated Planning and Reporting framework facilitates the Council in its role through the development of Community Strategic Plans, supported by subordinate plans intended to demonstrate how the needs and aspirations of the community will be addressed in the long term.

Council regularly reports to the community through mechanisms such as its website and local media outlets.

This Strategic Business Plan will be placed on public exhibition. This allows the community to provide feedback on the proposed service arrangements and corresponding costs of the service, prior to the Council considering adoption of the Plan.

Council also solicits feedback on projected capital works and maintenance expenditure and other resources through the public exhibition of its annual Operations Plan. Planned maintenance or capital installation activities that will impact on service delivery to the community will be advertised in local media.

## **6.9 Environmental protection and sustainable development**

Council has an obligation to operate its water and sewerage businesses in such a way as to minimise pollution of the environment, protect ecologically sensitive areas and to promote ecological sustainability.

Council will continue to operate its licensed facility (the Singleton Sewage Treatment System) in accordance with the licence and other statutory obligations.

The community will be involved in assisting to identify any issues of concern and advising Council on providing services that meet the environmental aspirations of the community.

In December 2015 Council adopted a Sustainability Strategy. This comprehensive document identifies the following key challenges facing Council for water efficiency and wastewater management:

- More efficiently managing water use within a context of competing and increasing demand and an increasingly hotter and variable climate
- Transitioning policy makers, planners and the community toward an Integrated Water Cycle Management approach for holistically managing water resources
- Encouraging greater uptake of water efficiency, harvesting and recycling practices and technologies by the community
- Promoting greater recognition and utilisation of household grey water as a valuable water resource
- Ensuring sewage treatment facilities at both municipal and individual property levels meet best practice operational and discharge standards.

### **6.9.1 Due Diligence**

Council will demonstrate due diligence in the operation of its facilities. In particular it is important to show that potential hazards have been thought about, identified and controls developed. This is the best defence for Council in the event that an environmental incident does occur (refer to Section 118 of the *Protection of the Environment Operations Act 1997* (POEO)).

In response to this Council will develop its Due Diligence Programme to address the matters listed in Section 241 of the POEO, namely:

- the water supply and sewerage activities that have potential to cause harm to the environment and the potential extent of that harm;
- practical measures to prevent, control or mitigate that harm;
- the extent to which the person committing the offence could reasonably have foreseen the harm caused to the environment;
- the extent to which the person had control of the causes of the offence, and
- Whether, in committing the offence, the person was complying with orders from an employer or supervising employee.

Council has a formal Pollution Incident Response Management Plan (PIRMP) for the Singleton STP. Council is developing due diligence processes within its Operations Plan framework,



undertaking Hazard Analysis and Critical Control Points (HACCP) analysis, and funding additional capital works where risk assessment determines this is necessary.

## 6.10 Action Plan

Table 13 - Customer Service Action Plan

Business	Objectives	Proposed measures	Provider, cost	Target date
Water Supply & Sewerage	Water supply and/or sewerage services extended to all remaining unserved urban areas where economically feasible.	<ul style="list-style-type: none"> <li>Proceed with the upgrading of non-potable supplies to potable standard and providing supply to previously unserved areas as external funding from grants and mines becomes available</li> </ul>	Council	Ongoing
Water Supply	Wastage of water is reduced	<ul style="list-style-type: none"> <li>Review tariffs whenever residential water usage revenue is less than 75% of total residential revenue.</li> <li>Consider updating rating charges to a conventional 2 part tariff, which includes a flat usage charge.</li> </ul>	Council	Annually  30 June 2016
Water Supply & Sewerage	An environmentally sustainable system whose environmental impacts, especially in sensitive areas, are acceptable to the community	<ul style="list-style-type: none"> <li>Develop a Due Diligence Programme to address the matters listed in Section 241 of the POEO</li> </ul>	Council / Community	30 June 2016
Sewerage	Reduce wet weather hydraulic loading to the economic limit	<ul style="list-style-type: none"> <li>Plan and implement complementary community information and a smoke testing programme</li> <li>In conjunction with the asset management strategy, identify and rectify reticulation pipes that are failing and allowing infiltration into the sewerage system</li> </ul>	Council – cost determined by AM strategy	Ongoing
Drought Management	Ensure that Council has a systematic, timely, effective and efficient response to drought which minimise disruption and adverse impact on customers	<ul style="list-style-type: none"> <li>Review this section, especially the schedule of trigger points for drought water restrictions and the level of water restrictions, and the associated measures following replacement of the Water Sharing Plan for the Hunter Regulated Water Source (by 1 July 2016)</li> </ul>	Council	September 2016

## **7 Asset Management Plan**

### **7.1 Introduction**

The aim of the asset management plan is to provide, operate, and maintain physical assets over their whole life cycle. This permits local water utilities to deliver the required level of service at the least cost while still satisfying corporate goals and statutory/regulatory requirements. According to the NSW Water and Sewerage Strategic Business Planning Guidelines, the key elements of a Total Asset Management Plan are:

- The Operations Plan
- The Maintenance Plan, and
- The Capital Works Plan

This part of the Strategic Business Plan demonstrates how Council is planning for the provision, disposal, operation, maintenance and renewals (rehabilitation or replacement) of its assets to meet the Levels of Service. It provides essential input into the Financial Plan.

### **7.2 Integrated Water Cycle Management**

The Integrated Water Cycle Management (IWCM) Strategy addresses two elements of the Best-Practice Management of Water Supply and Sewerage Framework (IWCM and Water Conservation) and is a local water utility's (LWU's) 30-year strategy for the provision of appropriate, affordable, cost-effective and sustainable urban water services that meet community needs and protect public health and the environment. A current IWCM Strategy is one which has been prepared every 8 years and reviewed every 4 years as part of a LWU's Strategic Business Plan.

Singleton Council developed an IWCM Plan Evaluation Study in 2010. The identified issue relating to assets was "Prioritise condition assessment of Council wastewater lagoons and renew assets as required."

Council is presently participating in a joint Expression of Interest to procure a consultant, with Upper Hunter and Muswellbrook Shire Councils for the provision of a new IWCM for each of the three councils to comply with the July 2014 checklist issued by NSW DPI Water. Preparation of a new IWCM is scheduled to commence in 2016.

### **7.3 Operations Plan**

The purpose of the Operations Plan is to ensure that target level of service is achieved at the least cost. It is important to ensure that the Operations Plan is adequately supported by the appropriate documentation and staff training.

### 7.3.1 Water Supply Asset Register

Table 14 - Water Supply Asset Register

Water System Characteristics		Comments
Properties connected	6740	A population of 19,200 enjoys a water supply service (2013-14 TBL). The Singleton local government areas has 22,694 residents (2011 census)
Total urban water supplied	3,010ML	This is the total urban water supplied at master meters. 1.6% of the urban population of Singleton are without reticulated water supply. (2013-14 TBL).
Peak demand	26.4ML/day	The peak day demand occurred in 1998. The peak day demand has been steadily declining since 1998, which will significantly extend the life of the Water Treatment Plant.
Delivery capacity of system	30ML/day	Delivery capacity from the direct filtration works into the distribution system.
Av. annual residential water per property	297kL	High compared to Statewide median (173kL) (2013-14 TBL)
Locations supplied	Treated potable water to Singleton, Mount Thorley Industrial Area, Army Camp, Abattoir, Broke Village and Jerry's Plains Village.	Water consumption by users: 62% residential 18% commercial 12% industrial 1% rural 7% institutional
Sources of supply	Glennies Creek Dam	Glennies Creek Dam is located about 25km from Singleton. It has a catchment area of 233km <sup>2</sup> . It has a FSL capacity of 283,000ML and was constructed in 1983.

Water Assets		Comments
Length of reticulation and distribution pipelines	99km of transfer and trunk mains 172km of reticulation	(2013-14 TBL)
Reticulation materials	AC, CI, DICI, HDPE, PVC, MDPE POLY, uPVC, DI, MS, Copper, HDuPVC and unknown	Wide range of materials historically used for water reticulation mains
Diameters	50mm, 75mm, 100mm, 150mm and 250mm	Aging cast iron mains dating to 1908 require replacement.
Pumping stations	9	
Water reservoirs	11 service reservoirs	One service reservoir has been identified as approaching design life and replacement is scheduled.
Potable supply plants	Obanvale WTP	Direct filtration plant
Water treatment plant description	Built in 1993, raw water is gravity fed to the plant. The Obanvale WTP is a direct filtration plant, processes comprise of coagulation and flocculation, chemical dosing, filtration and chlorination.	Council's Asset Management Plan states that the 30ML/day capacity of the WTP is sufficient to cater for population growth for the next 15 years.
Scheduled Capital Works	Reservoirs have been identified as a priority in the next year. WTP requires upgrade work.	Upgrades to Apex, Rix's, McDougalls, and Mt Thorley Reservoirs plus new Minimbah and Bridgman Ridge Reservoirs. Upgrades also planned for the WTP.

## 7.3.2 Sewerage Asset Register

Table 15 - Sewerage Asset Register

Sewerage System Characteristics		Comments
Properties connected	5620	A population of 15,800 benefited from a sewerage service (2013-14 TBL). The Singleton local government areas has 22,694 residents (2011 census)
Sewage collected	1,067 ML	4.8% of urban properties do not have a reticulated sewerage service. (2013-14 TBL)
Recycled water produced	350ML	33% of effluent is recycled. (2013-14 TBL).
Locations serviced	Singleton, Maison Dieu and army camp	35% of Singleton LGA's households rely on on-site sewage treatment systems.

Sewerage Assets		Comments
Length of gravity trunk mains and reticulation	126km of gravity trunk mains	37 properties served per km of main. Statewide average is 38. (2013-14 TBL).
Gravity reticulation mains materials	Vitrified clay	Aging mains dating to 1939 require replacement or relining to minimise infiltration and service disruptions.
Diameters	Size range 150mm - 750mm	
Length of Rising Mains	25km	(2013-14 TBL)
Rising mains materials	AC, CI DI and DI CL	
Pumping stations	15	
Number of STP	1	
Treatment plant age	Constructed in 1998	Relatively new STP
Treatment plant details	Intermittent Extended Aeration Activated Sludge Plant	STP has a capacity of 20,000 EP but may require augmentation to cater for anticipated population growth.
Scheduled Capital Works	Sewer Treatment Plant, new pump stations and rising mains, aging sewer mains	Sewage Treatment Plant augmentation commencing 2017/18, and replacement/ relining of aging sewerage mains and pump stations require the bulk of budgeted funding during the next 30 years.

## 7.3.3 Assessment of Asset Condition

Condition is monitored through failure statistics, selected dig up and inspect (rare), inspections of above ground facilities annually. Council has a rolling program of CCTV inspection of buried sewers. Improved recording systems have recently been implemented.

During development of the *Singleton Council Valuation of Water Supply and Sewerage Assets to 30 June 2014: Valuation Report* (completed in June 2015), Council designated all assets in the asset register a condition grade. The condition of Council's water supply and sewerage assets has been rated using a simple condition grading model, shown in Table 16. The results are summarised in Table 17- note most assets have been graded condition 1.

Table 16 – Description of condition gradings

Grade	Description of Condition
1	Very good: only planned maintenance required
2	Good: Minor maintenance required plus planned maintenance
3	Fair: Significant maintenance required
4	Poor: Significant renewal/ rehabilitation required
5	Very poor: physically unsound and/ or beyond repair

Table 17 - Asset Condition

Asset Class	Condition 1 (no of assets)	Condition 2 (no of assets)	Condition 3 (no of assets)	Condition 4 (no of assets)	Condition 5 (no of assets)
Water	2121	13	18	339	7
Sewer	2471	11	463	52	93

### 7.3.4 Water Supply - Implications of Condition Assessment

Council's water supply network is in overwhelmingly good condition, with more than 85% of assets in *Very Good* condition. This reflects well on Council's management of its asset portfolio. There are however some assets in poor and very poor condition, which require attention. Council will investigate assets condition rated as poor or very poor and prioritise based on risk assessment.

### 7.3.5 Sewerage – Implications of Condition Assessment

Like the water supply network, the Singleton sewerage network is in impressively good condition, with more than 80% of assets in *Very Good* condition. Again there are some assets in poor and very poor condition which require attention. Council will investigate assets condition rated as poor or very poor and prioritise based on risk assessment.

Council has an identified problem with inflow and infiltration into the sewerage system following wet weather, with wet weather inflow to the STP many times greater than dry weather. This is a problem that Council will address via smoke testing and inspections. It is understood that an additional issue has been identified with maintenance holes sitting below the level of ponding water following rainfall events. Council will establish a register of hotspots (both on Council and private land) which contribute to the problematic wet weather inflow.

### 7.3.6 Key areas for improvement

Council proposes to:

- **Continue its rolling program of asset inspection.** Council has a comprehensive data set for all of its water supply and sewerage assets. The value of this data set only remains as long as Council can continue to update the data with the outcomes of regular inspections.
- **Use contractors to perform asset condition inspections.** The use of specialist contractors for asset inspection reporting is a sensible use of Council's resources,

particularly if Council approved inspection report templates are used to collect data. Contractors have been used by Council to collect condition information in recent years, and there is no reason why this practice should not continue. It appears to be working well.

- **Continue with on-going program asset renewals.** For example, Singleton has water reticulation pipelines which have been in service for over a century. Whilst the condition of most of these pipelines is rated as 1 (with some at 4) their estimated remaining life is only 5 years. Similarly, there are vitreous clay gravity sewer mains acquired in 1937, again with condition identified as 1 but with an estimated remaining life of only 3 years. Council should act to renew aging assets before failure occurs or extend useful life to reflect the new reality.
- **Consider all alternatives to improve asset condition.** The Sewer Main Rehabilitation Program is scheduled to run for three years from Schedule 2016/17 – 2017/18. Pipe relining is a commendable project and a step towards managing the renewal load. Council will consider extending the project beyond this 2018 if required.
- **Seek to act on the problem of disproportionate wet weather inflow to the STP,** where the condition of Councils assets is the source of the problem. Prioritise the replacement of low lying manholes, defective pipes and other assets which permit rainwater to contribute excessively to the wet weather flow.

### 7.3.7 Asset Values

The valuation of water supply and sewerage assets to 30 June 2014 is provided as .Financial values were obtained from the *Singleton Council Valuation of Water Supply and Sewerage Assets to 30 June 2014: Valuation Report*. This valuation was completed in accordance with “Fair Valuation” principles.

Table 18 - Asset Values

System Type	Current Replacement Cost	Annual Depreciation	Written Down Current Cost	End of life value	Mean Useful Life	Mean Residual Life
Water supply	\$130,000,000	\$1,800,000	\$83,000,000	\$8,300,000	73	45
Sewerage	\$69,000,000	\$890,000	\$44,000,000	\$24,000,000	65	31

### 7.3.8 Operation Analysis

**An operations analysis is in effect a complete investigation of the adequacy of a water supply or sewerage system to meet present and future needs.** This analysis determines whether the existing system is capable of economically meeting the business’ adopted level of service. Where the existing system is inadequate, or where assets are found to be approaching capacity or the end of their economic life, output from the analysis will be incorporated into the

capital works plan. In some situations assets may be found to be superfluous to current needs and can be retired.

Table 19 provides a summary of the changes that have occurred in the business between the first version of this Plan in 2014 and this current plan. It can be seen that some initiatives have been completed, others require further development and in some cases changed circumstances demand a revised strategy.

Table 19 – Operational Analysis – Actions from 2104 to 2016

Issue	Situation in Version 1.0 of the SBP (2014)	Situation in Version 2.0 of the SBP (2016)
Project delivery	Council had high levels of cash and investments. This has been caused by gaps in project management ability and limited resources to organise and manage capital works, leading to extended delays in project delivery.	Additional project management resources have been engaged, resulting in an acceleration of the works program. There still is a significant level of cash reserves.
Infrastructure planning	Singleton local government area has experienced strong population growth. At times Council has found it difficult to service new developments due to the rapid pace of growth. Infrastructure planning has been exacerbated by the absence of a up to date Development Servicing Plan for staff and developers to refer to.	Population growth is slowing. A new Development Servicing Plan will be completed in 2016.
Internal Levels of Service	At times there have been information disconnects between the development assessment and infrastructure provision sections of Council, leading to inefficient infrastructure provision, delays in provision and a degraded level of service.	Service level agreements have been developed to address the internal levels of service provided
Management of Asset Data	Council presently has two corporate systems storing asset data: 1. GIS – contains all assets including network assets 2. Civica Authority Asset Management System (partially implemented) - Water and sewer assets are yet to be imported into this system As the current systems do not meet the operational needs of Water and Waste staff, these staff use spreadsheets to record and store asset related information. This is not a good option for data security and integrity.	Business rules for management of water and sewerage asset data have been implemented. Additional GIS resources have been engaged to update the asset register.
Towns provided with non-potable water	These water supplies are not treated to meet minimum standards and the supplies have been declared as non-potable. Notification of affected communities did not meet requirements of Department of Health.	All non-potable supplies now meet the requirements for notification as set out by the Department of Health



A review the Capital Works Plans for water supply and sewerage assets was conducted in December 2015, to establish which works had been completed and what were the new priorities. The new capital works plan is used in this version of the SBP.

### 7.3.9 Comments on Operation Analysis

Singleton has experienced significant growth in recent years. Growth is predicted to slow due to economic changes in the mining sector. The backlog of capital works projects identified in 2014 is progressively being addressed.

Council will continue to plan for the future by expanding the water supply and sewerage networks to cater to the increasing population of the Singleton LGA. An objective is that potable water be available to every community over 50 residents.

Council is preparing a Development Servicing Plan, which will assist in the planning for the future expansion of the water supply and sewerage networks.

Financial modelling has shown that whilst Council appears, at first glance, to have considerable funds in reserve, there may not be sufficient capital works projects identified to resolve future capacity issues. This is particularly the case for the Water Supply business. Council will use the preparation of a reliable Development Servicing Plan to document servicing strategies and thereby better identify future capital works needs.

## 7.4 Maintenance Plan

### 7.4.1 Overview

The purpose of the Maintenance Plan is to support the Operations Plan by ensuring that the actual outputs, reliability and availability of the individual sub-systems, facilities and components, as specified in the Operations Plan, are achieved in the most cost effective manner.

Maintenance is generally planned in two ways:

- **Scheduled** (also known as planned or preventative) maintenance and is either:
  - Fixed-interval maintenance: or
  - Condition-based maintenance.
- **Breakdown** (also known as corrective) maintenance.

Typical water and sewer asset maintenance activities undertaken by a council may include;

- Water Main renewals
- Sewer Main renewals
- Chlorination equipment services
- Pump refurbishments
- Filtration media replacement

- Fluoridation equipment
- Reservoir cleaning
- Reservoir inspections
- Water Main cleaning
- Valve operations and inspections and replacement
- Meter reading
- Manhole maintenance
- Telemetry
- Switchboard inspection and renewals
- Smoke testing and inspections of private infrastructure
- CCTV of sewer mains
- Bio solids handling
- Chemical Supply
- Water Testing for both water and sewerage
- Flow meters
- Mechanical servicing of WTP and STP components

Singleton Council has documented work procedures for maintenance activities. Detailed operational statements and practices are in use for pipeline maintenance and repairs, treatment plant operations (water & sewer), inspection/operation of minor water supply schemes (villages), minor water pump stations, telemetry system operation and maintenance; major water and sewer pump station operation, inspection and repair.

Council will continue to maintain and update documentation of water and sewer maintenance activities.

#### **7.4.2 Maintenance Plan Discussion**

Council considers that it excessively relies on breakdown maintenance. Council aims to move towards adopting scheduled maintenance regimes for critical system components - components that would lead to a Level of Service failure were they to fail.

Many water supply and sewerage assets are supplied with detailed maintenance service manuals. Some assets, such as gas chlorinators, must only be serviced by accredited service providers. Council will aim to utilise maintenance schedules for equipment and ensure that they form part of the maintenance plan. All procedures must be completed by suitably qualified employees or contractors.

Scheduled inspections are also important to determine condition and schedule maintenance or renewal based on criticality.

Breakdown maintenance takes place after a failure has occurred and should be minimised wherever possible. Components are provided with backup systems where failure is easily detected and preventative maintenance is not cost-effective (eg small pumps in duty-standby stations).

Council strives to ensure that accurate records are maintained on all maintenance works.

### 7.4.3 Key improvement initiatives

Council proposes to:

- **Continue to maintain and update documentation of maintenance procedures.**  
Council has documented work practices for maintenance activities and will continue to maintain and update this documentation.
- **Implement fixed time maintenance practices for critical system components**  
Council will move away from reactive to scheduled, preventative maintenance by planning for the maintenance of critical components.
- **Ensure that maintenance is performed according to the service manuals only.** By following the recommendations of the manufacturer it is possible to prolong the life of the equipment.
- **Use suitably qualified contractors to perform specialised maintenance works.**  
Council will explore options where it may be cost effective to bring in specialist contractors to perform certain tasks, such as telemetry maintenance or a contract diver to internally inspect a reservoir.
- **Improve record keeping of maintenance and enhance communication between operational and professional staff.** Council will implement procedures to ensure that maintenance data is collected; defects, maintenance, repairs etc then communicated to the relevant stakeholders in the organisation. Staff to be trained in the new procedures. Council will consider the use of new technology for data collection.

## 7.5 Capital Works Plan

The purpose of the Capital Works Plan is to:

1. Identify the anticipated future Capital Works requirements and expenditures to meet the proposed Level of Service
2. Form a critical input to the Financial Plan to determine affordability, and if necessary, trigger a review of the proposed level of service and consequential capital works requirements.

### Need for Capital Works

The need for **new capital works** might arise from:

- Infill development of an existing areas served;
- Decisions to extend services (e.g.: to cater for a new development);
- Lack of facilities or capacity to meet the Level of Service

The need for **rehabilitation or replacement of existing assets** might arise when:

- Performance is inadequate for the achievement of the level of service and/ or other operational objectives, or presents an unacceptable risk of performance failure. This can include cases where assets have become technologically obsolete; or
- It is more cost-effective to rehabilitate or renew the asset than to repair and maintain the old asset.

### **7.5.1 Features of the Capital Works Plan**

The Capital Works Plan was developed using information drawn from a variety of sources, including:

- Capital works planning spreadsheets prepared by Council. This was updated in December 2015 in a workshop session.
- The live “Projects” spreadsheets -updated weekly basis by staff to track projects

Major new assets planned for the short term (5 years) include:

- Minimbah Drive Reservoir (new) – increased capacity for supply and fire fighting
- Bridgman Ridge Reservoir (new) – new release area
- Upgraded water supply to the Singleton Saleyards and Livestock Facility
- Upgrades to the water treatment plant – improves workplace health and safety and enables Council to better comply with licence requirements
- Jerry’s Plains water supply pipeline – to provide potable water to more residents of a small village community
- Decentralised water treatment plants for Bulga and Camberwell – new supplies to previously unserved communities
- Upgrades to the sewage treatment plant – new UV treatment and treated effluent irrigation system
- New rising main from Kelso Street sewer pumping station
- New rising main from Bourke Street sewer pumping station to sewer treatment plant
- New pump stations and rising mains at Bridgman Ridge/ Hunter Green and Gowrie Links

## 7.5.2 Water Supply - List of Capital Works Projects

Table 20 - List of Water Capital Works Projects as at December 2015

CAPITAL WORKS IN \$('000)	30 year exp.
<b>New Works – Growth</b>	
Retreat Estate	
Retreat 3400 x 200 mm main (new areas)	411
Retreat 1813 x 150 main (current areas)	17
Bridgman Ridge/Hunter Green	
Bridgman Ridge Reservoir (8 Mega litres)	1446
1500 m x 250 mm main	68
2015 mm x 375 mm main	354
Valve Hunterview CV4	140
Valve AICV	70
Pinnacle Estate	
Pressure Boost	37
Gowrie Links	
300 m x 150 mm main	13
1000 m x 200 mm main	53
Stage 2 Gresford Road- Redbourneberry	1200
Stage 1 water to Livestock Yard	700
Pump line 1070 x 100 mm main	300
Booster Pump Station	52
Elevated Tank (100 kl)	146
Gowrie/McDougall's Reservoir interconnection	1001
375mm Trunk Main East of Bridgman Ridge/Hunter Green	2041
Additional 250mm Trunk Mains East Bridgemans Ridge	498
New reservoir Minimbah Drive	600
Replacement of fluoride system- NSW Health funded	300
Water Treatment Plant – filterbed replacement	1200
<b>New Works – ILOS</b>	
Obanvale Balance Tank	555
Glennies Creek Dam Booster Pump Station Upgrade	212
WTP improvements (new: generator, fence, flow meters)	660
Minor Plant & Equipment	140
Jerry's Plains mains	77
Jerry's Plains water supply pipelines	35
Broke Water mains	42

CAPITAL WORKS IN \$('000)	30 year exp.
Telemetry Upgrade	30
Power Surge Protection	16
Jerry's Plains WQ (Iron Removal)	530
WTP Upgrade for WQ (GAC plant)	8000
Depot relocation to flood free location	1590
Upgrade works at Apex reservoir	10
Upgrade works at Rixs reservoir	110
Upgrade works at McDougall's reservoir	500
Upgrade Mt Thorley Reservoir	200
Decentralised water supply – Bulga	2800
Decentralised water supply – Camberwell	3700
<b>Renewals</b>	
Repaint Retreat Reservoir	244
Repaint Rixs Creek reservoir	413
Repaint Apex Reservoir	274
Reservoir security fencing	50
Gowrie Reservoir renewal	200
Water Service Replacements	3466
Main Renewals - larger mains (150 m x 375 mm Gowrie)	121
Valve and Hydrant Replacements	712
Water Treatment Plant Renewals	
Dosing Pumps, valves, telemetry	100
Pump and mechanical replacements	840
PAC Plant - dosing, compressor	438
Backwash Pump Replacement	137
Valve Replacements	40
Air Blowers	75
Telemetry, Outstation boards upgrades	541
Water Pump Stations	
Retreat Pump Replacements	40
Meters and Non Return Valve Replacements, continuing	1924
Minor Mains Replacement Program	
High Street (West End to Boundary)	59
Castlereagh Street (John to George)	212
Other minor mains replacement for 2015-16 consolidated	300
Other reservoir renewals for 2015-16 consolidated	106
Other renewals 2015-16 consolidated	387
All Unallocated renewal costs from asset register renewals predicted	9210
Replace sub 100mm for Fire Fighting	265
<b>Grand Total</b>	<b>\$50,009</b>

### 7.5.3 Sewerage - List of Capital Works Projects

Table 21 - List of Sewerage Capital Works Projects as at December 2015

CAPITAL WORKS IN \$('000)	30 year exp
<b>New Works – Growth</b>	
Bridgman Ridge/Hunter Green	
Sewer Pump Station	742
Rising Main 250 mm	289
Gowrie Links	
Major Sewer Pump Station	1112
Rising Main 250mm diameter - Stage 1	436
Rising Main 250mm diameter - Stage 2	178
Investigation Works for New Developments	424
Open new area with Rezone - East of Hunter Green- Allowance only	5406
Sewer Treatment Plant – UV disinfection system	1200
Sewer Treatment Plant – treated effluent irrigation system	1200
Sewer Plant Augmentation 35,000 EP	9540
<b>New Works – ILOS</b>	
Sewer pump valve relocation	300
Dangar Road SPS capacity upgrade	80
Boonal Street SPS capacity upgrade	80
New RM from Bourke St SPS to WWTP	1451
Pressure Sewered System - Supply & Install (net only)	212
SPS Alternative Power (Kelso/Hunter View/Army)	149
New RM from Kelso St SPS (Edward Street)	186
Minor Pump Station Capacity Improvements due infill development	477
Telemetry improvements	244
Rag Screening and Removal with wet weather bypass	120
Wet weather bypass and storage pond	150
Grit Removal for the 25,000 plant	250
Dunolly Pump Upgrade	120
Kelso Street Pump Station - major refurbishment	1605
Bourke Street Pump Station - major refurbishment	1605
Minor Telemetry Improvements	382
<b>RENEWALS</b>	
Sewer Deep Repairs:	
Sussex - 44m; manhole 102A to 3D 225mm	38

CAPITAL WORKS IN \$('000)	30 year exp
Sussex - 43m; manhole 102b to 102a 225mm	38
William St - 67m; manhole 3F to 3E 225mm	61
Hunter St - 66m; manhole 3I to 3H 150mm	53
Hunter St - 81m; manhole 3J to 3I 150mm	66
William St - 78m; manhole 3K to 3J 150mm	58
Full Replacements of mains	
Manholes Renewals (additional to cover 70 year av)	954
Small Main Replacement/Relining:-	
Ongoing Program	1308
Sewer relining contract	750
Main Replacements (additional to cover 30 year av)	1500
Sewerage Treatment Plant Renewals:-	
Aerators - Gearbox	240
Minor Pump Stations:-	
Long Term Pumps/ treatment (needs review 12 months)	1200
Water Infiltration Program	580
<b>GRAND TOTAL</b>	<b>\$34, 784</b>

## 7.5.4 Annual Capital Works Expenditure

Table 22 - Annual Capital Works Expenditure

	1	2	3	4	5	6	7	8	9	10
Year	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Water	5696	3707	7887	1726	1370	2491	8794	873	673	2624
Sewer	821	1825	3946	990	1900	2430	821	1788	1550	135
	6517	5532	11832	2716	3270	4921	9615	2661	2223	2759

	11	12	13	14	15	16	17	18	19	20
Year	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Water	533	533	606	1440	573	2047	533	606	938	533
Sewer	135	135	135	434	135	294	206	347	135	135
	668	668	741	1874	708	2341	739	953	1073	668

	21	22	23	24	25	26	27	28	29	30
Year	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Water	533	601	606	673	533	533	533	606	673	534
Sewer	135	3315	7131	5106	135	135	135	135	135	135
	668	3916	7737	5779	668	668	668	741	808	669

Water Total	\$50,009
Sewer Total	\$34,784
<b>Grand Total</b>	<b>\$84,793</b>

## 7.5.5 General Comments on the Capital Works Plan

- The Capital Works Plan was updated in December 2015 to reflect latest capital works undertaken by Council. The full Capital Works Plan, as used in the financial modelling, is provided in Appendix C.
- Council intends to provide every community with more than 50 residents access to potable water. To this end the capital works plan includes the provision of decentralised water treatment plants to the villages of Bulga and Camberwell. Works to the estimated value of \$6.5M are proposed for these locations in 2017/18 and 2018/19.

## 7.5.6 Renewals

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.



Information compiled in 2015 for the *Valuation of Water Supply and Sewerage Assets to 30 June 2014: Valuation Report* calculated the most current valuation data on Council's water and sewer assets, and provided a reliable indication of annual depreciation.

Council's current Asset Management Plans for water and sewerage explore different scenarios for predicting required future renewal expenditure. The plans show that Council's expenditure on asset renewals is aligned with projected renewals in most years. In years where there is a gap, there is necessary capital available in the Water Supply and Sewerage funds for projected renewals. The renewals program will be refined following the completion of the Development Servicing Plan.

Singleton Council's water supply and sewerage assets are in very good condition – much better than many local water utilities across NSW. Consequently the standard useful lives of assets recommended by the NSW DPI Water may not be entirely appropriate. Increasing the useful lives of the water and sewer assets to suit Singleton's particular circumstance will lower the depreciation as well as reducing the projected renewal program for each year. This should lead closer synergy between annual depreciation and annual renewal expenditure.

Council will therefore seek to complete condition evaluation for across a representative sample of all water and sewer assets, and use this information to extrapolate useful lives that reflect their circumstance. Council's planning for renewals will be revisited following the development of this new information.

### **7.5.7 New Works**

The New Works programme largely consists of trunk infrastructure used to service new development areas and capacity upgrades to accommodate growth in existing infrastructure. It also includes the works necessary to upgrade water supply services to villages.

Council estimates that \$1-1.5m of water supply assets and \$300,000-\$400,000 of sewerage assets are contributed annually by developers as part of their subdivision obligations.

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. In the absence of a contemporary Development Servicing Plan, it is difficult for staff to plan for growth in the water supply and sewerage networks. The risk exists that without a robust DSP and other supporting strategic documents, Council cannot really be sure of what new works may be needed to service growth over a 30 year horizon, and hence whether the existing funds will really be adequate.

### **7.5.8 Disposal Plan**

Council does not plan to dispose any of its assets before the end of their useful life. The nature of the assets means that there is almost no sale value in the assets once they reach life expiry as the cost of recovery exceeds the potential revenue.

## 7.6 Asset Management Action Plan

Table 23 - Asset Management Action Plan

Business	Objectives	Proposed measures	Provider	Target date
Water Supply & Sewerage	A financially sustainable system of assets that are able to meet the current and forecast demands of the community within agreed service levels	<b>IWCM</b> <ul style="list-style-type: none"><li>• Prepare a new IWCM to comply with the July 2014 checklist</li></ul>	Singleton Council	Start 2016
		<b>Operations Plan</b> <ul style="list-style-type: none"><li>• Continue the rolling program of asset inspection</li><li>• Contractors will be engaged to perform asset condition inspections</li><li>• Continue with on-going program asset renewals</li><li>• Continue with innovative alternatives to improve asset condition, such a pipe relining</li><li>• Implement a sewer manhole inspection and improvement program to act on the problem of disproportionate wet weather inflow to the STP</li></ul>	Singleton Council and specialist contractors (i.e. for condition assessment and pipe relining)	On -going programs
		<b>Maintenance Plan</b> <ul style="list-style-type: none"><li>• Document maintenance procedures</li><li>• Implement fixed interval maintenance practices for critical system components</li><li>• Use suitably qualified contractors to perform specialised maintenance works</li><li>• Improve record keeping of maintenance and enhance communication between operational and professional staff</li></ul>	Singleton Council  Specialist maintenance contractors  Upper Hunter Water Utilities Alliance  Council staff	On-going improvement actions
		<b>Capital Works Plan</b> <ul style="list-style-type: none"><li>• Complete condition evaluation for water and sewer assets, and use this information to extrapolate useful lives that reflect Singleton's circumstance. Revisit planning for renewals following the development of this new information.</li><li>• Look to develop a comprehensive planning framework for new works to service growth</li></ul>	Council staff  Council with advice from specialist consultants	Complete condition evaluation in 2015/16  New DSP underway

## 8 Workforce Plan

### 8.1 Workforce Planning Objectives

This plan has the primary objective of ensuring that Council has appropriate numbers of staff in the correct positions and with the necessary qualifications, experience and skills to provide sustainable water supply and sewerage services in accordance with the operational requirements of the Total Asset Management Plan.

### 8.2 Position Analysis

Council has an approach to Human Resources that identifies which employees have responsibility for water supply and sewerage functions.

Position descriptions have been developed for those current positions dedicated to the provision of water and sewerage services and skills requirements have been determined for each of these positions. Competency for each position is regularly evaluated.

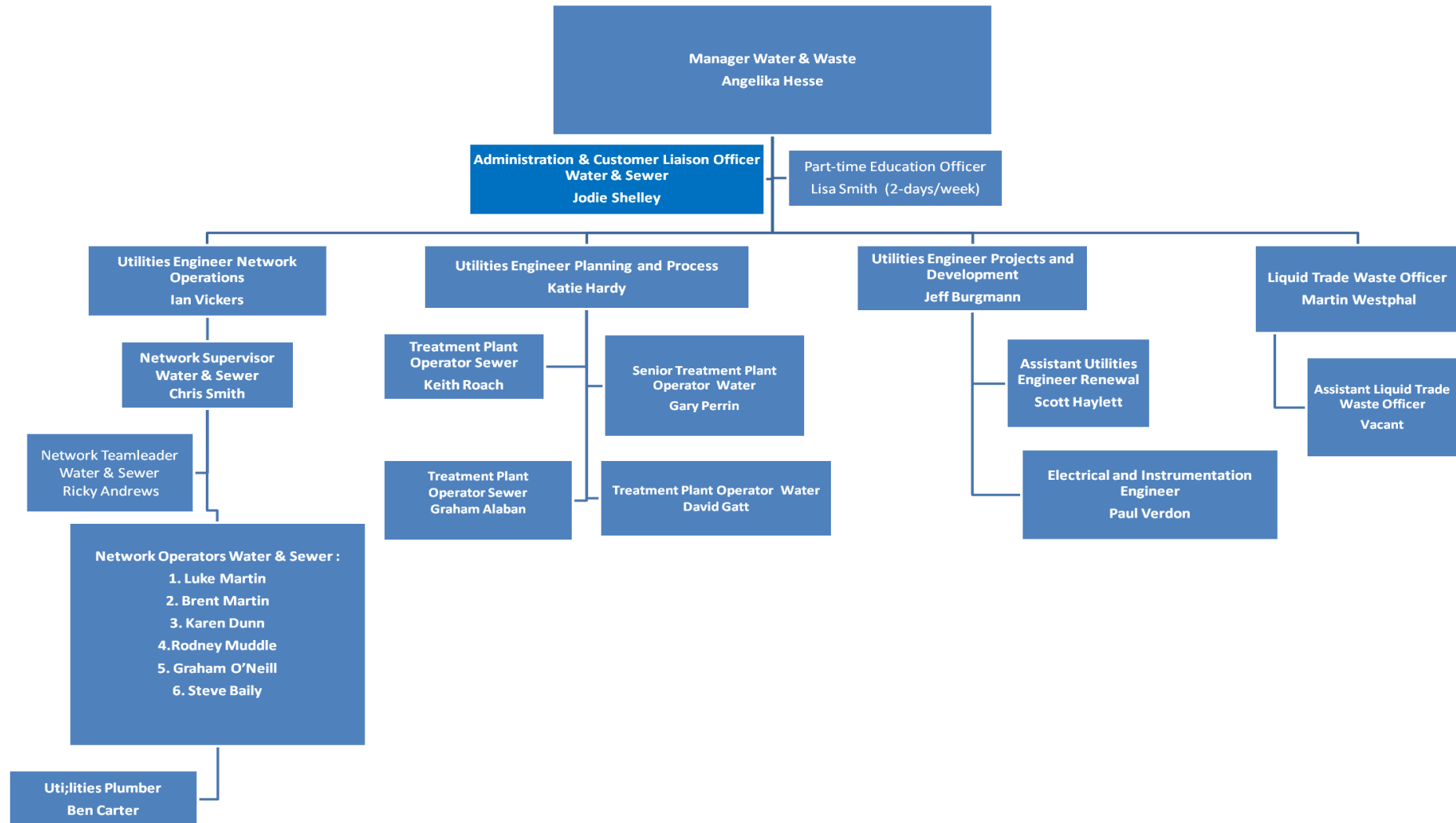
The broad range of services that the Council provides means that many employees possess a range of skills to cover multiple functions.

As at June 2015, the operational water and sewerage staffing consisted of:

- Manager Water and Waste
- 1 Administration Officer
- 1 part-time Education Officer
- 3 Utilities Engineers
- 1 Assistant Engineer
- 1 Liquid Trade Waste Officer and 1 Assistant
- 13 Operational Staff

The council's organisation chart showing positions that are involved in the delivery of water supply and sewerage services is provided in Figure 5.

Figure 5 – Structure of Water Supply and Sewerage Staff (as at June 2015)



### 8.3 Workforce Audit

A key part of human resources management process is to match the staff numbers, qualifications and skills against the defined workload that is derived from the operation and maintenance of the water supply and sewerage systems to best practice standard.

A key component of the ongoing human resources audit is ensuring that the qualifications of staff are kept up to date, are renewed as necessary and their currency is documented (e.g. confined space entry accreditation requires that the employee undergoes annual refresher training). Council has a system in place that ensures the currency of confined space and other WHS related training.

In March 2014, comparative performance reporting indicated that Council had low operating and management costs when compared with the state median for regional local water utilities. The costs for the Water Supply Fund were slightly below the state median and the costs for the Sewerage Fund were significantly below the state median.

At a workshop held with Council officers on 25 March 2014, the following issues affecting the performance of the business were identified:

- high level of cash reserves
- backlog of expenditure on the total asset management plan
- focus on operational aspects of the business, which became the highest priority above the delivery of capital works
- lack of staff resources to deliver the capital works plan
- shortfalls in documentation of workflows
- focus on breakdown maintenance rather than preventative maintenance
- limited planning for the new capital works required to support future development needs
- acquisition of new assets from developers without input from water and sewer asset officers.

Council subsequently implemented workforce strategies to address the issues identified in the workshop and as a result significant backlog capital works have been achieved in the 2014/15 financial year. Staff numbers are now as follows:

- Water supply: the number of employees per 1000 properties is increased from 0.9 to 1.4, compared to a state wide median of 1.5.
- Sewerage: the number of employees per 1000 properties increased from 1.3 to 1.8, compared to the state wide median of 1.6.

## **8.4 Resource Development**

### **8.4.1 Adjustments to organisational structure**

A new organisational structure was implemented in 2015. The key features of the new organisational structure were:

- The two contract positions (plumbing contractor and electrical/ instrumentation contractor) were converted to full time positions through Council's recruitment processes.
- Two new water and sewerage reticulation operators were recruited; recognising the low level of employees identified in the TBL performance reports, when compared with the state median.
- A new position was created as the "champion" for contracts and capital works project delivery (The Assistant Utilities Engineer).
- A separation of the Water and Sewage Treatment part of operation from the reticulation replacement and maintenance operations, affording a greater amount of skills and specialisation associated with each task.
- Greater use of trainees and apprentices to encourage succession planning and skills development.

### **8.4.2 Resourcing the Capital Works Plan – Project Delivery Structure**

The proposed structure addressed limitations with the ability to deliver capital works. A position was nominated in the structure (Assistant Utilities Engineer) with the responsibility of preparing and administering contracts, and training others on the use of contract templates and associated documentation. Previously, this work was absorbed in the operational tasks of staff and the priority suffered accordingly.

### **8.4.3 Business Improvement Plan**

Council proposes a review of workflows to streamline processes and to generate efficiencies and better use existing resources. In particular, the planning for new assets to cater for growth has lagged behind the development approvals process, resulting in the handover of a number of assets to Council without the resultant knowledge or capacity to maintain them.

Council is developing improvements to workflows and systems between the development staff and asset staff.

Council has undertaken a sewerage transport study and commissioned a drinking water management system, which will provide valuable information towards capital works planning for the future growth potential.

#### **8.4.4 Position Descriptions/Learning Plans**

The Local Government State Award, the award under which Council's staff are employed, is a skills-based award that requires councils to develop a salary system that provides incentives for staff to acquire and use additional skills.

The current position descriptions consider and document the key tasks, duties and specialist knowledge required to adequately perform the requirements for each position. Council should ensure that they also where relevant include the skills and competencies that have been established as industry standards for water and sewerage authorities throughout Australia.

The position descriptions include progression criteria, which effectively form a learning plan for the incumbent and which are reviewed at the annual performance appraisal. These learning requirements are integrated into a Corporate Training Plan.

The progression attainment and learning plans are maintained and regularly updated for each employee with responsibilities for the water supply and sewerage businesses. This should be extended to not only include the operational staff but also professional and administrative support staff. Council arranges for any necessary training at no cost to the employee.

Training needs are ongoing. It is reasonable to allocate a minimum of five days per annum on combined water and sewerage operations for training purposes for each of its professional and operational staff and up to 2 days per annum for customer service staff.

The new structure provides career paths and skills development for trainee engineers. It also separates the Water and Sewage treatment part of operation from the reticulation replacement and maintenance operations. This arrangement recognises that treatment plant operators require quite different qualifications and training from those in reticulation maintenance/renewal, and will assist in the learning plan and skills development of these positions.

#### **8.4.5 Succession Planning**

A key to providing sustainable services into the future is to ensure that there continues to be trained and skilled staff available to take over from staff that may leave the organisation or who take extended leave. It is preferable that where practicable these replacement staff can be sourced from within the organisation so that the store of corporate and local knowledge is retained.

In this respect it would be prudent to develop a succession plan that identifies any staff members with the potential or the skills to occupy higher classifications and establishes a career development programme for them. The career development programme should be written into individual learning plans. It is noted that Council's Corporate Workforce Management Plan addresses the issue of succession planning in the broad context but requires further development.



The succession plans will need to consider the following matters:

1. **Strategies to encourage documentation of procedures.** Experienced staff are able to complete tasks faster without developing procedural documentation, but this creates a substantial risk of loss of corporate knowledge. Staff performance should be measured in terms of completing tasks in accordance with procedural documentation, and creating documentation where required rather than raw output.
2. **Develop a mentoring system.** Staff are encouraged to become involved in transition to retirement programmes, which involve mentoring junior staff with potential to fill their role. This is compatible with the Local Government State Award, under which Council staff are employed, is a skill based award that requires councils to develop a salary system that provides incentives for staff to acquire and use additional skills. This approach is highly compatible with traineeships and cadetships and offers these junior staff a clear path forward in their career at Council.

#### **8.4.6 Work Practices**

Council has implemented operational manuals and work method statements for its water and sewerage infrastructure.

Work practices reflect Councils standard operating procedures and externally imposed restraints. Where necessary, staff should be provided with additional training to ensure that they operate Council's infrastructure in accordance with best practice and statutory requirements.

Failure to operate plants at or near best practice potentially puts Council at risk of attracting the attention of the environmental regulators.

#### **8.4.7 Work health and safety**

The provision of water and sewerage services carries many potential health and safety risks to both employees and contractors and to a lesser degree, the community. These risks include but are not limited to handling chemicals, biological hazards, contact with aerosols, electrical hazards, hazards associated with excavations, working in traffic, exposure to the elements and working in confined spaces. Council is responsible under the provisions of the Work Health and Safety Act 2011 not only for the actions and welfare of its employees but also for those of contractors working on council sites or undertaking work on council's behalf.

Council has developed and will maintain an effective Work Health and Safety (WHS) system in conformity with the Work Health and Safety Act.

This system is integrated into the day to day operations of water and sewerage employees, with staff trained to assess and manage risks and all field staff accredited in activities such as Confined Space Entry, Traffic Control and Manual Handling. The risks associated with chemical handling are assessed and staff are trained to manage these risks accordingly.

Detailed records are maintained of the training provided to each employee. These records also flag when reaccreditation or other routine training is due.

Council has a Contractor Management Policy. Contractors are required to demonstrate through the system operated by Statewide Mutual that they have adequate insurances and WHS systems.

Local contractors working regularly with Council's staff are inducted to work under Council's WHS system. Contractors from outside the area are also able to do this with adequate induction, or to utilise their own WHS system where possible. Council will continue to monitor and improve its WHS system.

#### 8.4.8 Implications of local government reform

The potential state government reform program for local government has potential impacts on future staffing. Development of this State Government policy area needs to be closely monitored for impact on future staffing requirements and expertise. If 'joint organisations' or variant collaborative organisations form, Council will be proactive within the Upper Hunter region.

### 8.5 Action Plan

Table 24 - Workforce Action Plan for Water and Sewerage Business

Objectives	Proposed measures	Provider, cost	Target date
Appropriate staff resources to meet the operational requirements of the Asset Management Plan.	<ul style="list-style-type: none"> <li>Review business workflows to streamline processes and to generate efficiencies and better use existing resources.</li> <li>Finalisation of position descriptions and learning plans associated with the new structure.</li> <li>Develop a succession plan that identifies any staff members with the potential or the skills to occupy higher classifications and establishes a career development programme for them. The succession plans will need to consider Strategies to encourage documentation of procedures and a mentoring system.</li> <li>Continue to develop and improve work practices.</li> <li>Continue to monitor and improve the WHS system.</li> <li>Be pro-active within the Upper Hunter region in regard to proposed local government reforms.</li> </ul>	SC	30 June 2016       ongoing
Total productivity of staff is improved.	<ul style="list-style-type: none"> <li>Maintain learning plans for each staff member. Provide required training at no cost to employee.</li> </ul>	SC and external providers	Review annually thereafter

## 9 Financial Plan

### 9.1 The purpose of financial planning

Water supply and sewerage businesses are characterised by large variations in annual expenditure as capital assets are progressively purchased, maintained, rehabilitated and replaced. The long life cycle of these assets inevitably means that most water supply and sewerage businesses will need to go through cycles of funds accumulation, spending and debt servicing.

From the customer's perspective, it is important that the cost of service is kept as stable as possible. If the cost of service is consistent (in real terms) over the life cycle of the asset base, both current and future customers are treated in an equitable manner.

This Financial Plan seeks to meet the following objectives to support the Singleton Water Supply and Sewerage businesses:

- The businesses are capable of funding new and replacement assets needed to provide a satisfactory level of service to its customers and the broader community.
- The water supply and sewerage networks are able to expand to meet the needs of population growth.
- Over the long term, customer charges are kept as low and as stable as possible.

This version of the Financial Plan should be considered indicative of a future price path. The actual price path will vary in response to any future changes in the regulatory and economic environment. All costs are expressed in 2015/16 dollars.

### 9.2 Planning approach

This Financial Plan has been developed using 'FINMOD' modelling software provided by the DPI Water. This software uses historical operating cost information and combines it with forecasts of growth and future capital works to prepare financial forecasts, including cash, loans required and asset valuation estimates.

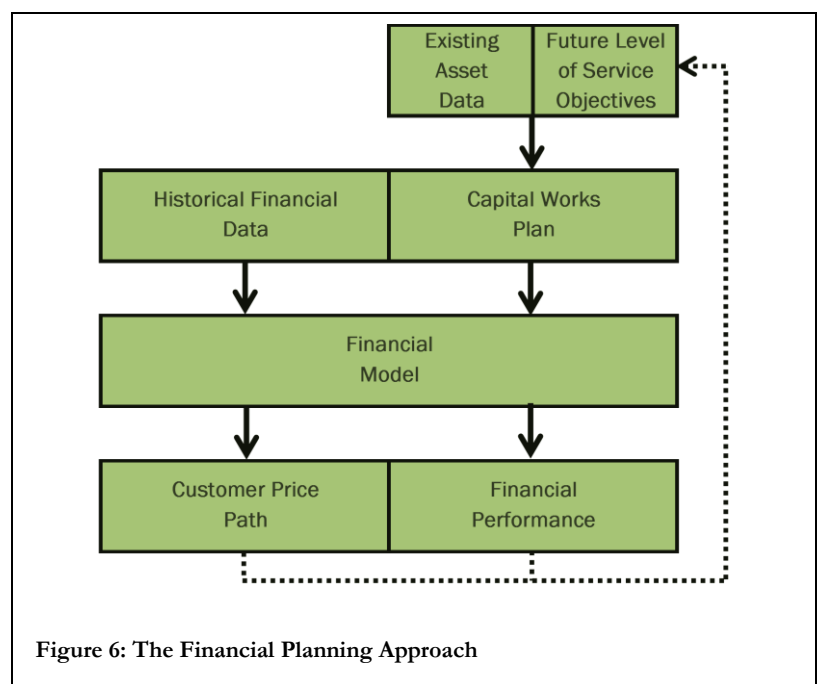


Figure 6: The Financial Planning Approach

### 9.3 Current Position

The following discussion is based on Council's Financial Statements (*Singleton Council Special Purpose Financial Statements* for the year ended 30 June 2015).

#### Water Supply

Singleton's Water Supply business had \$31.7 million in cash and investments as at 30 June 2015, and no outstanding loans. In the 2014/15 financial year the business had an operating surplus after tax equivalent dividends of \$772,000. The business utilises assets (infrastructure, property, plant and equipment) valued at \$57 million and the current replacement cost of system assets is estimated to exceed \$105 million. Council's water supply assets are depreciating at a rate of \$1.7 million per year.

#### Sewerage

Singleton's Sewerage business had \$19.3 million in cash and investments as of 30 June 2015, and no outstanding loans. In the 2014/15 financial year, the business had an operating surplus after tax equivalent dividends of \$1.2 million. The business utilises assets (infrastructure, property, plant and equipment) valued at \$31 million and the current replacement cost of systems assets is estimated to exceed \$70 million. Council's sewerage assets are depreciating at a rate of \$1.1 million per year.

The business is characterised by a very high level of cash and investments. Asset management planning indicates that there is currently adequate expenditure on asset renewals and replacements. Developer Servicing Planning is currently being undertaken, which will review the level of capital works required to service the future growth needs.

In addition, "Singleton has experienced a prolonged period of steady population growth and growth in business and industry" (Singleton Community Strategic Plan 2013). The annual population growth rate of 1.1% is affected by the mining downturn, and slightly lower projections have been adopted for the financial modelling. Council must plan for growth by augmenting the water supply and sewerage networks to meet the needs of new residents.

### 9.4 Planning timeframe

These plans have been developed over a thirty year planning timeframe, from the 2015/16 financial year through to 2044/45. This timeframe is recommended by the DPI Water, and represents slightly less than half of the life cycle of most major assets in the water supply and sewerage systems.

### 9.5 Growth forecasts

Section 2.2.3 discusses population growth forecasts, and the impacts of the mining industry.

To improve the accuracy of financial modelling, growth rates in FINMOD are based on the change in the number of assessments over the past five years.

An assessment of growth in assessments is shown in Table 25. The growth rates used for financial modelling (base case) are shown in the far right column.

Table 25 - Assessment of Growth Rate based on Number of Assessments - Water

Number of Assessments Water Supply	2010/11	2011/12	2012/13	2013/14	2014/15	Calculated growth rate	Adopted growth rate for FINMOD
Residential (occupied)	5,789	5,849	5,919	6,030	6,086	1.03%	1.0%
Residential (Unoccupied i.e. vacant land)	192	170	222	377	199	0.73%	
Non-residential (occupied)	671	681	682	394	699	0.83%	0.8%
Non-residential (unoccupied i.e. vacant land)	106	108	113	96	122	3.02%	

Table 26 - Assessment of Growth Rate based on Number of Assessments -Sewer

Number of Assessments Sewerage Service	2010/11	2011/12	2012/13	2013/14	2014/15	Calculated growth rate	Adopted growth rate for FINMOD
Residential (occupied)	5,088	5,144	5,159	5,284	5,334	0.97%	1.0%
Residential (Unoccupied i.e. vacant land)	106	83	150	210	132	4.91%	
COMBINED	5,194	5,227	5,309	5,494	5,466	1.05%	
Non-residential (occupied)	418	435	448	554	437	0.91%	1.3%
Non-residential (unoccupied i.e. vacant land)	25	27	33	39	35	8.00%	
COMBINED	443	462	481	593	472	1.31%	

**Source:** Council's Special Schedules.

The Department of Planning and Environment forecasts that the population growth rate will decline to around 0.6%pa within the next 20 years. This scenario is assessed in the sensitivity analysis in Section 9.11, where a low growth scenario of 0.5%pa is modelled.

## 9.6 Financial modelling

The financial modelling has been undertaken with a view to facilitate investment in asset acquisition, renewals and replacement without significant increases in the typical residential bill.

As there are currently no borrowings, there is reasonable capacity to borrow funds to accelerate both new works/ upgrade and renewal/replacement programs.

## 9.7 Key assumptions

All models require a number of key assumptions. These assumptions can have a significant impact on the model results. Because of this, the modelling process includes various sensitivity

tests to identify which assumptions have a significant impact on the outcomes for the business. Key assumptions and sensitivity tests for the businesses are provided.

Table 27: Key assumptions and sensitivity tests, Singleton

Parameter	Assumed value 2013-2042	Sensitivity tests at
Inflation (general)	2.5%pa	2000-2015 averages of 2.6% for general inflation and 3.5% for capital works inflation <sup>5</sup>
Inflation (capital works)	2.5%pa	
Interest rate for investments	4.0%pa	3.0%pa
Capital works programme	As per plan	-
Growth in assessments	As per Table 25 and Table 26	Decrease growth by 0.5%pa Increase growth by 0.5%pa
Developer charges income	\$4930 per ET (water fund residential) \$7390 per ET (water fund non-residential) \$2958 per ET (sewer fund residential) \$6964 per ET (sewer fund non-residential)	To be confirmed following the completion of the DSP
Number of assessments	As per Special Schedules 3 and 5	-
Vacant assessments	Vacancy rate is constant	-
Borrowings	Nil	-
Mean useful life of assets	As per June 2105 Valuation Report 73 years for water assets 65 years for sewer assets	-

#### Guidance: Interest rate for investments

- In May 2014 Council renewed an investment at 4.4% for a 5 year term.
- Council's June 2015 Long Term Financial Plan provides for 3% interest on investments.
- The NSW Office of Water 2014 Checklist recommends an investment interest rate of 5.5%

## 9.8 Modelling scenarios and constraints

The modelling process used the following constraints during model development:

- The minimum level of cash and investments was set \$5 million for each fund (i.e. \$5 million for water fund and \$5 million for sewer fund). The current level of cash and investments is substantially greater than this.
- The Economic Real Rate of Return (ERRR) is to be generally positive during the model period.
- Any increases in Typical Residential Bills (TRB) are to be implemented so that the impact of the increase on residents is reasonable.
- The value of system assets was assumed to be the sum of the system assets and plant assets as reported in the current Asset Management Plans.

## 9.9 Future operating costs

By default the FINMOD financial model increases operating costs according to the growth rate, including system growth resulting from backlog.

<sup>5</sup> Annualised increase in the producer price index for roads and bridges construction for Australia (ABS Catalogue 6427.0)

Singleton Council has completed a major review of the efficiency of the water and sewerage business. Operational costs have been refined and a new staff structure has been implemented. Significant operational efficiencies have resulted from the conversion of a number of contract positions to full time staff positions. Employee numbers are now close to the state median, and operational costs are better than the state median (*Source: 2014/15 TBL performance reporting*).

An analysis of future operating costs is in Table 28 and Table 29. This analysis has been used to inform the OMA over-rides in the FINMOD model.

Table 28 – Water Fund OMA Analysis

Expenditure	Figures derived from Financial Statements for 2014/15 (\$,000)	Annual Projections for 2016/17 onwards
Administration	587	1% increase
Engineering & Supervision	509	3% increase
Operation Expenses	1466	1% increase
Maintenance Expenses	379	1% increase
Energy Costs	152	with inflation
Chemical Costs	145	with inflation
Purchase of Water	132	19% increase over 2 years - split
Other Expenses	205	increase inflation

Table 29 – Sewer Fund OMA Analysis

Expenditure	Figures derived from Financial Statements for 2014/15 (\$,000)	Annual Projections for 2016/17 onwards
Administration	348	3% increase
Engineering & Supervision	355	3% increase
Operation Expenses	382	1% increase
Maintenance Expenses	459	1% increase
Energy Costs	146	1% increase
Chemical Costs	3	1% increase
Other Expenses	262	1% increase

## 9.10 Financial modelling

### 9.10.1 Water Supply Fund

The 2014/15 TRB is \$511. (Source: 2013/14 TBL report)



Table 30 – Water Fund Base Case Financial Summary

Scenario	Median Typical Residential Bill (2015/16 \$)	Median ERRR	2044/45 Net Cash (\$'000)	2044/45 Total Equity (\$'000)
1 Base Case - maintain existing high level of cash and investments	\$480, decreasing to \$440 at 2025/26	Declining over life of plan. Median is -0.5%	\$28,000	\$110,000
2 Alternate Case – positive ERRR	\$530	0.01%	\$50,000	\$140,000
3 Alternate Case – maintain 2014/15 TRB	\$511	Declining over life of plan. Median is -0.3%	\$47,000	\$130,000

Indicators are showing that the capital works program may not be providing adequate assets to service the needs of future growth or future asset replacement. This is reflected in a generally negative economic real rate of return (ERRR) for the modelled TRB of \$480 per annum for the water fund. It is likely that, under this scenario, unplanned capital works will be required, consuming cash and investments and demanding an increase in typical residential bills. As a result the base case does not meet the primary objective of ensuring that customer bills are as low and stable as possible over the long term.

In order to achieve a positive ERRR for the water fund, a TRB of \$530 per annum is required (Scenario 2). The level of cash and investments will continue to increase under this scenario, which reflects increasing shortfall in expenditure on capital works. Under this scenario, cash and investments will continue to accumulate over the life of the plan to very high levels.

The third scenario maintains the existing TRB of \$511. Under this scenario, cash and investments will continue to accumulate over the life of the plan.

Council is preparing a Development Servicing Plan that will identify the capital works required to service future growth needs and the financial assessment will be reviewed at this time.

Figure 7 - Base Case TRB and Cash and Investments (Scenario 1)

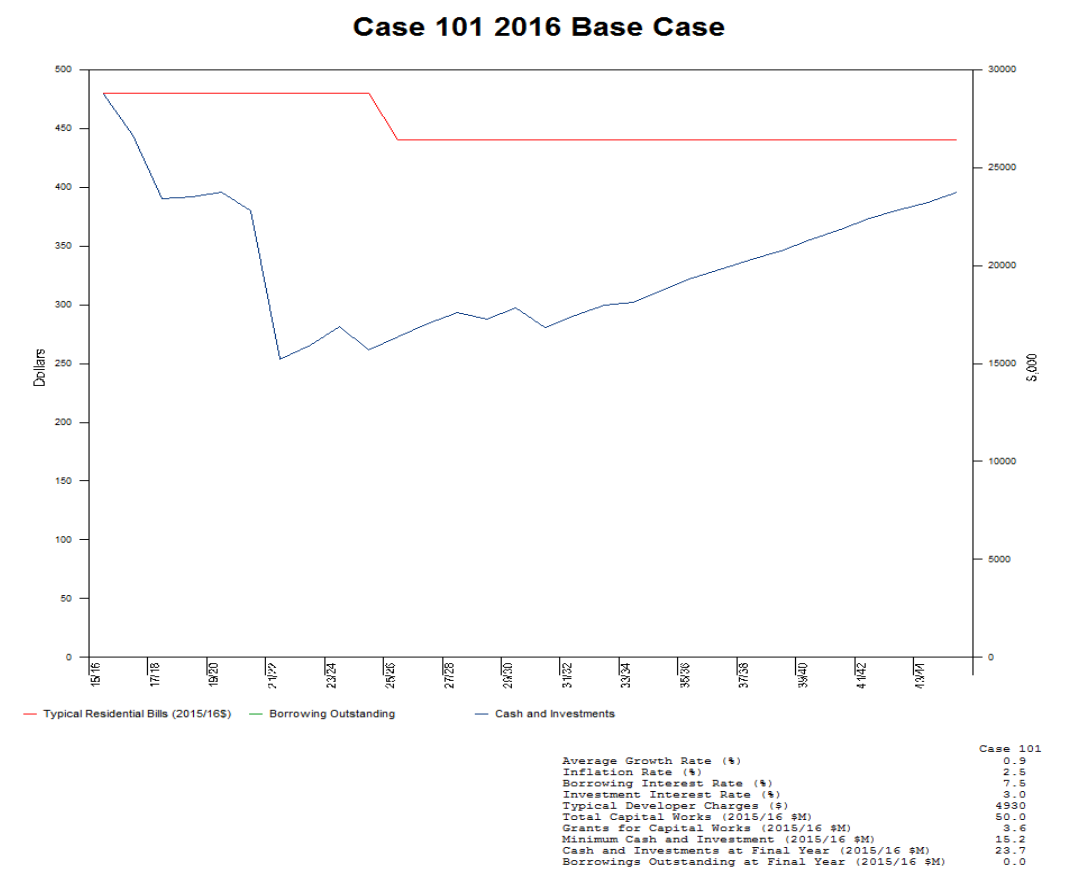
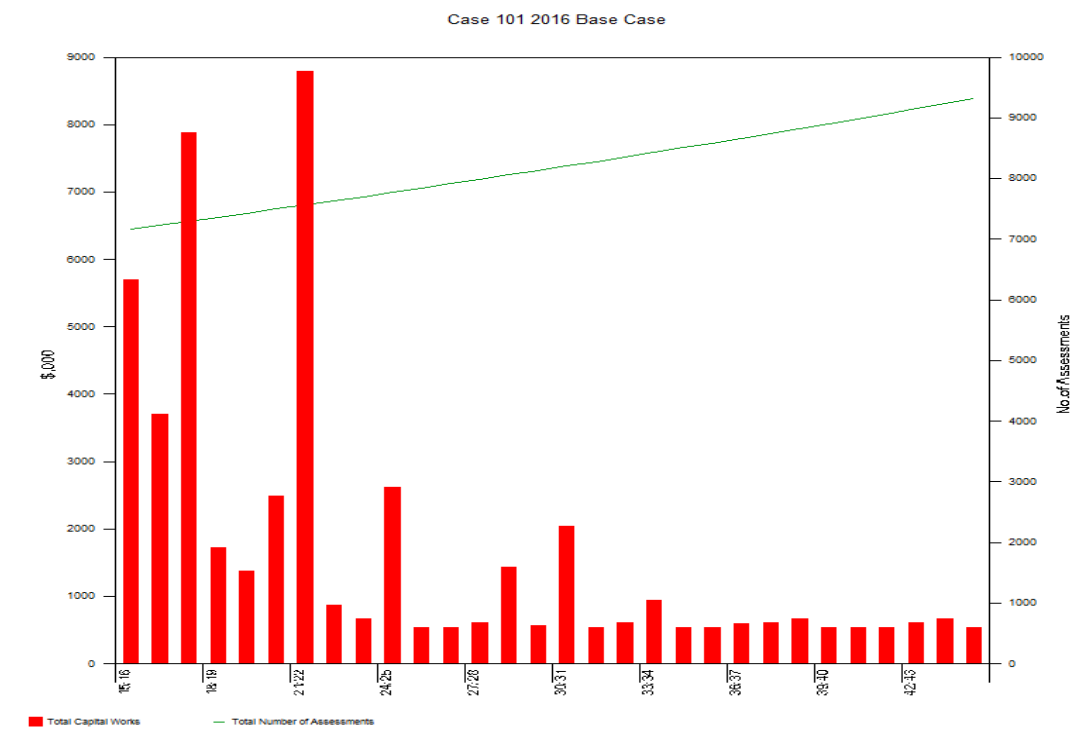


Figure 8 - Base Case Total Capital Works and Number of Assessments (Scenario 1)



### 9.10.2 Sewerage Fund

The 2014/15 TRB is \$480. (Source: 2013/14 TBL report)

Table 31 – Sewerage Fund Base Case Financial Summary

Scenario		Median Typical Residential Bill (2013/14 \$)	Median ERRR	2042/43 Net Cash (\$'000)	2042/43 Total Equity (\$'000)
1	Base Case - maintain existing high level of cash and investments	\$440, decreasing to \$390 in 2025/26	1.3%	\$37,000	\$80,000
2	Alternate Case – positive ERRR with reduced TRB	\$390	Remaining positive - declining over life of plan	\$23,000	\$70,000
3	Alternate Case – maintain 2014/15 TRB	\$480	2.0%	\$46,000	\$95,000

Note that the median economic real rate of return (ERRR) is positive. This is rate of return demonstrates financial sustainability, and is compatible with a business returning efficiency dividends to Council's General Fund in most years.

A second scenario has been modelled, which aims to reduce the TRB by drawing down cash and investments, whilst maintaining a positive ERRR over the life of the plan. Under this scenario, the TRB could be reduced to \$390.

The third scenario maintains the existing TRB of \$480. Under this scenario, cash and investments will continue to accumulate over the life of the plan.

Council is preparing a Development Servicing Plan that will identify the capital works required to service future growth needs and the financial assessment will be reviewed at this time.

Figure 9 - Sewer Fund Base Case TRB and Cash & Investments

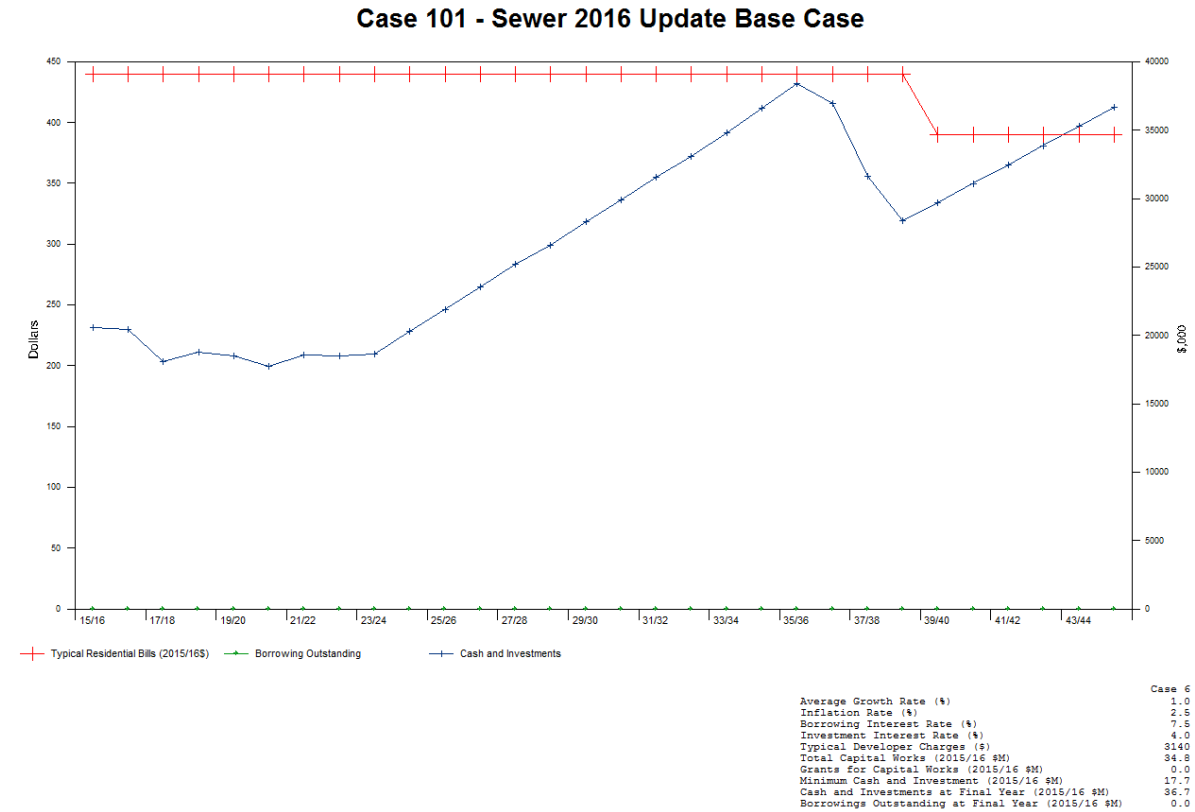
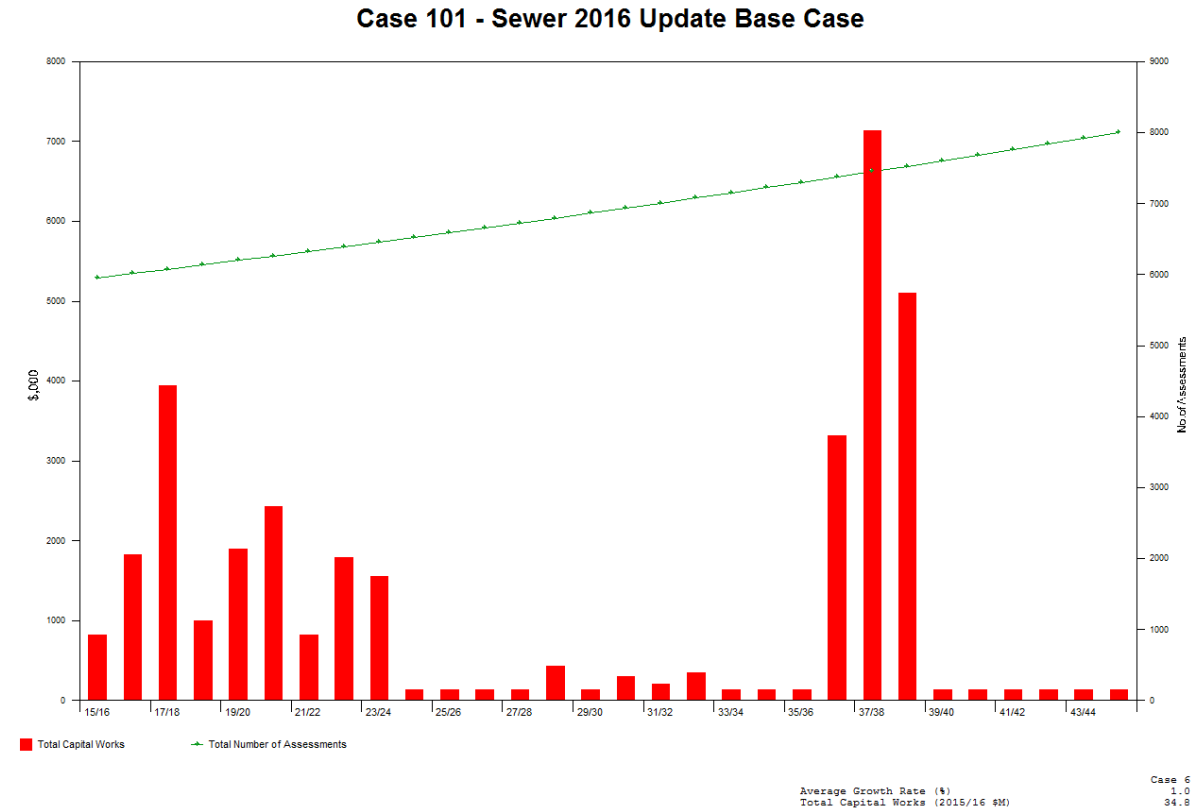


Figure 10 – Sewer Fund Base Case Total Capital Works and Number of Assessments (Scenario 1)



The financial model confirms that there is adequate capacity to undertake the capital works plan without the need for borrowing.

## 9.11 Sensitivity analysis

A sensitivity analysis was conducted by selecting the base case, and varying various financial and growth parameters in the model. The purpose of this analysis was to identify how vulnerable the business is to variations to input parameters.

The options tested consisted of:

0. Base case – Maintaining the current typical residential bill in real terms throughout the life of the plan and adopting the Capital Works Plan
1. Higher Growth – increase growth rate for assessments by 0.5%, lower typical residential bill
2. Lower Growth – decrease growth rate for assessments by 0.5%, higher residential bill
3. Increased inflation – 3.5% for capital works inflation (PPI for Roads and Bridges Construction, Australia).
4. Decreased interest rate for investments – decreased from 4.0% to 3%

A summary of the performance of the various options is provided in the table below.

Table 32 - Water Supply: Summary of financial performance of funding options (2015/16 dollars)

Scenario	Median Typical Residential Bill (2015/16\$)	Median ERRR %	2044/45 Net Cash and Investments (\$'000)	2044/45 Total Equity (\$'000)
0- Base Case	\$480, decreasing to \$440 in 2025/26	-0.5%	\$28,229	\$110,000
1- Higher Growth	\$460, decreasing to \$420 in 2025/26	-0.5%	\$32,998	\$120,000
2- Lower Growth	\$500, decreasing to \$460 in 2025/26	-1.0%	\$23,540	\$100,000
3- Increased Inflation	\$490, decreasing to \$450 in 2025/26	-1.0%	\$29,267	\$120,000
4 - Decreased Interest for Investments	\$490, decreasing to \$450 in 2025/26	-0.8%	\$26,643	\$100,000

For the Water Supply Fund, despite the varying of parameters in the sensitivity analysis, the ERRR remains negative, meaning that the base case does not meet financial sustainability criteria. The unresolved issue is the adequacy of capital works program currently planned by Council and the ability to service future growth.

Of all the parameters, the financial modelling is most sensitive to changes to the growth rate, capital works inflation and reduced investment interest rates. The relatively significant impact of investment rates also illustrates the business' exposure to unplanned capital works as these works will also lead to reduced interest income.

Table 33 - Sewer Summary of financial performance of funding options (2015/16 dollars)

Scenario	Median Typical Residential Bill (2015/16\$)	Median ERRR %	2044/45 Net Cash (\$'000) and Investments	2044/45 Total Equity (\$'000)
0. Base Case	\$440, decreasing to \$390 in 2039/40	1.3%	\$32,711	\$80,000
1. Higher Growth	\$420, decreasing to \$380 in 2039/40	1.1%	\$33,603	\$80,000
2. Lower Growth	\$460, decreasing to \$440 in 2039/40	1.0%	\$32,570	\$80,000
3. Increased Inflation	\$460, decreasing to \$430 in 2039/40	1.2%	\$33,723	\$90,000
4. Decreased Interest for Investments	\$460, decreasing to \$430 in 2039/40	1.1%	\$33,658	\$80,000

For the Sewerage Fund, the outcomes of the sensitivity analysis are all favourable. The impacts of the worst case scenario (lower growth) are still manageable.

## 9.12 Proposed price path

The recommendations of this plan will assist Singleton's water and sewerage businesses in working towards a sustainable position in regards to long term financial sustainability.

There are a number of vulnerabilities in the business. Although there are very high levels of cash and investments, the financial modelling shows that the capital works plan for water assets does not provide enough capacity to meet the likely demands of population growth. Hence the water fund modelling is returning a negative economic real rate of return (ERRR), regardless of the parameters varied in the sensitivity analysis.

Council will be completing a new Developer Servicing Plan (DSP) during 2016, which will ensure that there is a comprehensive planning framework in place to meet future growth. Financial modelling will be updated as part of the DSP development process.

**Until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bills for water fund and sewer fund, with increases in line with inflation.**

### Water Fund

For the water fund, the financial modelling indicates that a typical water residential bill (TRB) of \$480 is adequate to service the capital works plan, however a TRB of \$530 is necessary to generate a positive ERRR. The TRB for water fund in 2014-15 is \$511. Council is currently preparing a new Developer Servicing Plan (DSP), which will ensure that there is a comprehensive planning framework in place to meet future growth. The current capital works plan for the water fund includes no new works in the second half of the 30 year planning period. Accordingly the level of cash and investments is increasing substantially towards the end of the life of the plan, and it is suggested that the plan be updated after the DSP is complete.

The price for water supply services may need to change. The typical residential bill may need to vary following the development of a DSP and a comprehensive framework to meet future growth. Until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bill for water fund, with increases in line with inflation.

#### Sewerage Fund

For the sewer fund, a typical residential bill of \$440 is adequate, and the ERRR is positive. This is less than the 2014-15 TRB of \$480. Modelling indicates that the Sewerage Fund is financially sustainable.

The price for sewerage services does not need to change.

## 9.13 Action plan

Table 34 – Financial Plan: Action Plan

Objectives	Proposed measures	Provider, cost	Target date
The target level of service is achieved at the minimum sustainable cost to customers.	Develop a comprehensive planning framework for water and sewerage services to meet future growth. Until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bills for water fund and sewer fund, with increases in line with inflation.	Council	New DSP December 2016
	Review Financial Plan following the completion of the DSP and the IWCM	Council	2017



## **10 NSW Water Supply and Sewerage Performance Monitoring Report**

Singleton Council  
Water Supply and Sewerage Services: Strategic Business Plan  
DRAFT Version 2.0, February 2016

Singleton Shire Council TBL Water Supply Performance DRAFT 2013-14

WATER SUPPLY SYSTEM - Singleton Shire Council serves a population of 19,200 (6,740 connected properties). Water is drawn from the Hunter River and Glennies Creek to supply Singleton. The water supply network comprises 1 direct filtration works (30 ML/d), 11 service reservoirs (27 ML), 9 pumping stations, 30 ML/d delivery capacity into the distribution system, 99 km of transfer and trunk mains and 172 km of reticulation. The water supply is fully treated.

PERFORMANCE - Singleton Shire Council achieved 100% implementation of the NSW BPM requirements. The 2014-15 typical residential bill was \$511 which was less than the statewide median of \$582 (Indicator 14). The economic real rate of return was similar to the statewide median (indicator 43). The operating cost (OMA) per property was \$492 which was above the statewide median of \$400 (Indicator 49). Water quality complaints were similar to the statewide median of 3 (Indicator 25). Compliance was achieved for microbiological water quality (100% of the population, 1 of 1 zones compliant), chemical water quality and physical water quality. There were no failures of the chlorination system or the treatment system. Singleton Shire Council reported no water supply public health incidents. Current replacement cost of system assets was \$104M (\$14,600 per assessment). Cash and investments were \$30M, debt was nil and revenue was \$5.8M (excluding capital works grants).

IMPLEMENTATION OF REQUIREMENTS OF NSW BEST-PRACTICE MANAGEMENT (BPM) FRAMEWORK

(1) Complete Current Strategic Business Plan & Financial Plan	YES <sup>12</sup>	(3) Sound water conservation implemented	YES
(2) (2a) Pricing - Full Cost Recovery, without significant cross subsidies	Yes	(4) Sound drought management implemented	YES
(2b,2c) Pricing - Appropriate Residential Charges	Yes	(5) Complete performance reporting (by 15 September)	YES
(2d) Pricing - Appropriate Non-residential Charges	Yes	(6) Integrated water cycle management strategy	YES <sup>12</sup>
(2e) Pricing - DSP with Commercial Developer Charges	Yes	IMPLEMENTATION OF ALL REQUIREMENTS	100%

TRIPLE BOTTOM LINE (TBL) PERFORMANCE INDICATORS

	NW1 No.		LWU RESULT	RANKING		MEDIAN*	
				3,001 to 10,000	All LWUs	Statewide	National
UTILITY	CHARACTERISTICS	C1 1 Population served:	19200				
		C4 2 Number of connected properties:	6740				
		3 Residential connected properties (% of total)	Number of assessments: 7100				
		4 New residences connected to water supply (%)					
		A3 5 Properties served per kilometre of water main					
		6 Rainfall (% of median annual rainfall)					
		W11 7 Total urban water supplied at master meters (ML)					
		8 Peak week to average consumption (%)					
		9 Renewals expenditure (% of current replacement cost of system assets)					
		10 Employees per 1000 properties	per 1,000 prop				
SOCIAL	CHARGES & BILLS	P13 12a Residential tariff structure for 2014-15: inclining block; independent of land value; access charge \$149					
		12 Residential water usage charge for 2013-14 for usage <450 kL (c/kL)	c/kL (2013-14)				
		P3 14a Typical residential bill for 2013-14 (\$/assessment)	\$ (2013-14)				
		14 Typical residential bill for 2014-15 (\$/assessment)	\$ (2014-15)				
		15 Typical developer charge for 2014-15 (\$/equivalent tenement)	\$ (2014-15)				
		F4 16 Residential revenue from usage charges (% of residential bills)	%				
		F5 17 Revenue per property - water (\$/property)	\$/prop				
		18 Water Supply Coverage (% of Urban Population with reticulated WS)	% of population				
		H6 18a Risk based drinking water quality plan?	Yes				
		19 Physical compliance achieved? Note 10	Yes				
SOCIAL	HEALTH	19a Chemical compliance achieved? Note 10	Yes				
		H4 19b % population with chemical compliance	100				
		20 Microbiological (E. coli) compliance achieved? Note 10	Yes				
		H3 20a % population with microbiological compliance	% of population				
SOCIAL	SERVICE LEVELS	C9 25 Water quality complaints per 1000 properties	per 1,000 prop				
		C10 26 Water service complaints per 1000 properties	per 1,000 prop				
		C17 27 Incidence of unplanned interruptions per 1000 properties	per 1,000 prop				
		C15 28 Average duration of interruption (min)	min				
		A8 30 Number of water main breaks per 100 km of water main	per 100km				
		31 Drought water restrictions (% of time)	% of time				
		32 Total days lost (%)	%				
ENVIRONMENTAL	NATURAL RESOURCE MANAGEMENT	W12 33 Average annual residential water supplied - STATEWIDE (kL/property)	kL/prop				
		33a Average annual residential water supplied - COASTAL LWUs (kL/property)	kL/prop				
		33b Average annual residential water supplied - INLAND LWUs (kL/property)	kL/prop				
		A10 34 Real losses (leakage) (L/service connection/day)	L/connection/day				
		35 Energy consumption per Megalitre (kiloWatt hours)	kWh				
		36 Renewable energy consumption (% of total energy consumption)	%				
		E12 36a Net greenhouse gas emissions - WS & Sge (net tonnes CO2 - equivalents per 1000 properties)	t CO2				
ECONOMIC	FINANCE	42 Current replacement cost per assessment (\$)	\$				
		F17 43 Economic real rate of return - Water (%)	%				
		44 Return on assets - Water (%)	%				
		F22 45 Net Debt to equity - WS&Sge (%)	%				
		F23 46 Interest cover - WS&Sge	>100				
		47 Loan payment per property - Water (\$)	\$				
		F24 47b Net profit after tax - WS & Sge (\$'000)	\$'000				
		48 Operating cost (OMA) per 100km of main (\$'000)	\$'000				
		F11 49 Operating cost (OMA) per property (\$/prop) Note 8	\$/prop				
		50 Operating cost (OMA) per kilolitre (cents)	c/kL				
ECONOMIC	EFFICIENCY	51 Management cost (\$/prop)	\$/prop				
		52 Treatment cost (\$/prop)	\$/prop				
		53 Pumping cost (\$/prop)	\$/prop				
		54 Energy cost (\$/prop)	\$/prop				
		55 Water main cost (\$/prop)	\$/prop				
		F28 56 Capital Expenditure (\$/prop)	\$/prop				

NOTES:

- Col 2 rankings are on a % of LWUs basis - best reveals performance compared to similar sized LWUs (ie. Col 1 is compared with LWUs with 3,001 to 10,000).
- Col 3 rankings are on a % of LWUs basis - best reveals performance compared to all LWUs (ie. Col 1 is compared with all LWUs).
- Col 4 (Statewide Median) is on a % of connected properties basis- best reveals statewide performance (gives due weight to larger LWUs & reduces effect of smaller LWUs).
- Col 5 (National Median) is the median value for the 67 utilities reporting water supply performance in the National Performance Report 2013-14 ([www.bom.gov.au](http://www.bom.gov.au)).
- LWUs are required to annually review key projections & actions in the later of their IWCN Strategy and financial plan and their Strategic Business Plan and to annually 'roll forward', review and update their 30-year total asset management plan (TAMP) and 30-year financial plan.
- 2014-15 Non-residential Tariff: Access Charge based on Meter Size\* (eg. 40mm \$595), Two Part Tariff; Usage Charge 122c/kL.
- Non-residential water supplied was 32% of potable water supplied excluding non-revenue water.
- Non-residential revenue was 33% of annual rates and charges, indicating fair pricing of services between the residential and non-residential sectors.
- The operating cost (OMA) per property was \$492. Components were: management (\$151), operation (\$218), maintenance (\$59), energy (\$33) & chemical (\$20).
- Rehabilitations included 0.4% of water mains, 0.93% of service connections and 25.2% of water meters. Renewals expenditure was \$6,000/100km of main.
- Compliance with ADWG 2011 for drinking water quality is shown as "Yes" if compliance has been achieved (indicators 19, 19a & 20).
- Singleton Shire Council has 4 fully qualified water treatment operators who meet the requirements of the National Certification Framework.
- As Singleton Shire Council's strategic business plan and financial plan are over 4 years old, it needs to prepare a 30-year IWCN Strategy and financial plan in accordance with the July 2014 IWCN Check List ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)).

\* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

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Singleton Council  
Water Supply and Sewerage Services: Strategic Business Plan  
DRAFT Version 2.0, February 2016

Singleton Shire Council TBL Sewerage Performance DRAFT 2013-14

SEWERAGE SYSTEM - Singleton Shire Council serves a population of 15,800 (5,620 connected properties) and has 1 sewage treatment works providing advanced secondary treatment. The system comprises 20,000 EP treatment capacity (Intermittent Extended Aeration (Activated Sludge)), 15 pumping stations (30 ML/d), 25 km of rising mains and 126 km of gravity trunk mains and reticulation. 33% of effluent was recycled (Indicator 27) and the treated effluent is discharged to river. Singleton Shire Council has a Pollution Incident Response Management Plan (PIRMPs) for their sewage treatment works.

PERFORMANCE - Residential growth for 2013-14 was 1.1% which is similar to the statewide median. Singleton Shire Council achieved 100% implementation of the NSW BPM requirements. The 2014-15 typical residential bill was \$480 which was much less than the statewide median of \$669 (Indicator 12). The economic real rate of return was 2.9% which was greater than the statewide median (Indicator 46). The operating cost per property (OMA) was \$306 which was much less than the statewide median of \$430 (Indicator 50). Sewage odour complaints were less than the statewide median of 1 (Indicator 21). Singleton Council reported no public health incidents. Council complied with the requirements of the environmental regulator for effluent discharge. The current replacement cost of system assets was \$69M (\$11,800 per assessment), cash and investments were \$18M, debt was nil and revenue was \$3.7M (excluding capital works grants).

IMPLEMENTATION OF REQUIREMENTS OF NSW BEST-PRACTICE MANAGEMENT (BPM) FRAMEWORK

(1) Complete current strategic business plan & financial plan	YES <sup>11</sup>	(2e) Pricing - DSP with commercial developer charges	Yes
(2) (2a) Pricing - Full Cost Recovery without significant cross subsidies	Yes	(2f) Pricing - Liquid trade waste approvals & policy	Yes
(2b) Pricing - Appropriate Residential Charges	Yes	(3) Complete performance reporting (by 15 September)	YES
(2c) Pricing - Appropriate Non-Residential Charges	Yes	(4) Integrated water cycle management strategy	YES <sup>11</sup>
(2d) Pricing - Appropriate Trade Waste Fees and Charges	Yes	IMPLEMENTATION OF ALL REQUIREMENTS	100%

TRIPLE BOTTOM LINE (TBL) PERFORMANCE INDICATORS

UTILITY	CHARACTERISTICS	C5	1	Population served: 15,800	LWU RESULT	RANKING	MEDIAN <sup>*</sup>
UTILITY	CHARACTERISTICS	C8	2	Number of connected properties: 5,620			
		C6	3	Number of residential connected properties: 5,010			
		A6	4	New residences connected to sewerage (%)			
		W18	5	Properties served per kilometre of main			
			6	Volume of sewage collected (ML)			
			7	Renewals expenditure (% of current replacement cost of system assets)			
			8	Employees per 1000 properties			
SOCIAL	CHARGES & BILLS	P4		Description of residential tariff structure: access charge/prop; independent of land value			
		P4.1	11a	Residential access charge for 2013-14 (\$/assessment)	\$ 2013-14	2	2
			11	Residential access charge for 2014-15 (\$/assessment)	\$ 2014-15	2	2
		P6	12a	Typical residential bill for 2013-14 (\$/assessment)	\$ 2013-14	2	2
			12	Typical residential bill for 2014-15 (\$/assessment)	\$ 2014-15	2	2
			13	Typical developer charge for 2014-15 (\$/equivalent tenement)	\$ 2014-15	4	4
			14	Non-residential sewer usage charge (c/kL)	c/kL	2	3
		F6	15	Revenue per property - Sge (\$)	\$	4	3
			16	Sewerage Coverage (% of Urban Population with Reticulated Sge Service)	%	2	2
		E3	17	Percent of sewage treated to a tertiary level (%)	%	3	3
SOCIAL	HEALTH	E3	17	Percent of sewage treated to a tertiary level (%)	%	3	3
		E4	18	Percent of sewage volume treated that was compliant (%)	%	1	1
		E5	19	Number of sewage treatment works compliant at all times	1 of 1		
			21	Odour complaints per 1000 properties	per 1,000 prop	0.0	1.0
		C11	22	Service complaints - sewerage per 1000 properties	per 1,000 prop	12	8
		C16	23a	Average sewerage interruption (minutes)	min	60	109
			25	Total days lost (%)	%	2.8	2.9
		W19	26	Volume of sewage collected per property (kL)	kL	190	221
		W26	26a	Total recycled water supplied (ML)	ML	350	630
		W27	27	Recycled water (% of effluent recycled)	%	33	12
ENVIRONMENTAL	NATURAL RESOURCE MANAGEMENT	E8	28	Biosolids reuse (%)	%		100
			30	Energy consumption - sewerage (kWh/ML)	kWh	241	770
			31	Renewable energy consumption (% of total energy consumption)	%	0	0
		E12	32	Net greenhouse gas emissions - WS & Sge (net tonnes CO2 equivalents per 1000 properties)		230	370
			33	90 <sup>th</sup> Percentile licence limits for effluent discharge: BOD 30 mg/L; SS 30 mg/L; Total N 25 mg/L; Total P 15 mg/L			
			34	Compliance with BOD in licence (%)	%	100	100
			35	Compliance with SS in licence (%)	%	100	100
		A14	36	Sewer main breaks and chokes (per 100 km of main)	per 100km main	11	37
			37a	Sewer overflows (per 100 km of main)	per 100km main	13	13
		E13	37b	Sewer overflows reported to environmental regulator (per 100km of main)		0.0	0.8
ECONOMIC	FINANCE		39	Non res & trade waste % of total sge volume	%		21
			43	Revenue from non-residential plus trade waste charges (% of total revenue)	%	24	18
			44	Revenue from trade waste charges (% of total revenue)	%	2.5	2.0
		F18	46	Economic real rate of return - Sge (%)	%	2.9	1.5
			46a	Return on assets - Sge (%)	%	5.6	1.3
			48a	Loan payment per property - Sge (\$)	\$		90
		F24	48b	Net profit after tax - WS & Sge (\$'000)	\$'000	3,400	1180
			49	Operating cost (OMA) per 100 km of main (\$'000)	\$'000	1,150	1,730
		F12	50	Operating cost (OMA) per property (\$) (Note 9)	\$	306	430
			51	Operating cost (OMA) per kL (cents)	c/kL	161	206
ECONOMIC	EFFICIENCY		52	Management cost per property (\$)	\$	100	161
			53	Treatment cost per property (\$)	\$	91	155
			54	Pumping cost per property (\$)	\$	20	68
			55	Energy cost per property (\$)	\$	30	42
			56	Sewer main cost per property (\$)	\$	93	47
		F29	57	Capital Expenditure per property - Sewerage (\$)	\$	70	193

NOTES :

- Col 2 rankings are on a % of LWUs basis - best reveals performance compared to similar sized LWUs (ie. Col 1 is compared with LWUs with 3,001 to 10,000).
- Col 3 rankings are on a % of LWUs basis - best reveals performance compared to all LWUs (ie. Col 1 is compared with all LWUs). - see attachment.
- Col 4 (Statewide Median) is on a % of connected properties basis- best reveals statewide performance (gives due weight to larger LWUs & reduces effect of smaller LWUs).
- Col 5 (National Median) is the median value for the 66 utilities reporting sewerage performance in the National Performance Report 2013-14 (www.bom.gov.au).
- LWUs are required to annually review key projections & actions in the later of their IWCN Strategy and financial plan and their Strategic Business Plan and to annually 'roll forward', review and update their 30-year total asset management plan (TAMP) and 30-year financial plan.
- Non-residential access charge - \$220, proportional to square of size of service connection. Sewer usage charge - 161 c/kL.
- Non-residential revenue was 24% of revenue from access, usage & trade waste charges. The sewage collected (residential, non-residential & trade waste) was not reported.
- Compliance with Total N in Licence was 100%. Compliance with Total P in Licence was 100%.
- Operating cost (OMA)/property was \$306. Components were: management (\$100), operation (\$62), maintenance (\$112), energy (\$30) and chemical (\$2).
- Singleton Shire Council rehabilitations included 0.7% of its sewerage mains and 0.8% of its service connections. Renewals expenditure was \$31,000/100km of main.
- As Singleton Shire Council's strategic business plan and financial plan are over 4 years old, it needs to prepare a 30-year IWCN Strategy and financial plan in accordance with the July 2014 IWCN Check List (www.water.nsw.gov.au).

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\* The Statewide medians shown are draft only and are provided to assist Council. They must not be publicly disclosed.

## Singleton Shire Council Water Supply – Action Plan Page 1

### Summary

In 2013-14, Singleton Shire Council implemented all the water supply requirements of the NSW Best-Practice Management Framework and its performance has been [to be completed by Council].

Key actions from Council's Strategic Business Plan:

- Insert achievements for Key Action 1 here for Singleton Shire Council
- Insert achievements for Key Action 2 here for Singleton Shire Council

INDICATOR		RESULT <sup>2</sup>		COMMENT/DRIVERS	ACTION
	<b>Best-Practice Management Framework</b>	Implemented all the Best-Practice Requirements <sup>1</sup>	Very good	Implementation of the requirements demonstrates effectiveness and sustainability of water supply business. 100% implementation is required for eligibility to pay an 'efficiency dividend'.	Prepare a new 30-year IWCM Strategy, Financial Plan & Report in accordance with the July 2014 IWCM Check List ( <a href="http://www.water.nsw.gov.au">www.water.nsw.gov.au</a> ) as the existing Strategic Business Plan is over 4 years old.
<b>CHARACTERISTICS</b>					
5	Connected property density	27 per km of main High ranking (2, 3)		A connected property density below 30 can significantly increase the cost per property of providing services, as will also a high number of small discrete water supply schemes.	
9	Renewals expenditure	0% Lowest ranking (5, 5)	May require review	Adequate funds must be programmed for works outlined in the Asset Management Plan – page 3 of the 2013-14 NSW Performance Monitoring Report.	<b>FOR INDICATORS 9 to 56</b> Where ranking is low, investigate reasons including past performance and trends, develop remedial action plan and summarise in this column.
10	Employees	1.4 per 1,000 props High ranking (2, 2)	Good		
<b>SOCIAL - CHARGES</b>					
12	Residential water usage charge	122 c/kL Low ranking (4, 4)	Good	Benefits of strong pricing signals are shown on page 5 of the 2013-14 NSW Performance Monitoring Report.	
13	Residential access charges	\$149 per assessment Highest ranking (1, 1)	Good		See 16.
14	Typical residential bill <sup>3</sup> (TRB)	\$511 per assessment Highest ranking (1, 1)	Good	TRB should be consistent with projection in the financial plan. Drivers – OMA Management Cost and Capital Expenditure.	See 43.
15	Typical developer charges	\$5200 per ET Low ranking (4, 3)	Good		
16	Residential revenue from usage charges	71% of residential bills Median ranking (3, 2)	Satisfactory	≥ 75% of residential revenue should be generated through usage charges.	
<b>SOCIAL – HEALTH</b>					
19	Physical quality compliance	Yes Highest ranking (1, 1)	Very good		
19 a	Chemical quality compliance	Yes Highest ranking (1, 1)	Very good		
20	Microbiological compliance <sup>4</sup>	Yes Highest ranking (1, 1)	Very good	Critical indicator. LWUs should annually review their DWMS in accordance with NSW guidelines <sup>4</sup> .	

1. Council needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and 30-year financial plan, review Council's TBL Performance Report and prepare an **Action Plan** to Council. The Action Plan is to include any actions identified in Council's annual review of its DWMS (Indicator 20) and any section 61 Reports from the NSW Office of Water. Refer to pages 27, 28, 107 and 111 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report.
2. The ranking relative to similar size LWUs is shown first (Col. 2 of TBL Report) followed by the ranking relative to all LWUs (Col. 3 of TBL Report).
3. Review and comparison of the 2014-15 **Typical Residential Bill (Indicator 14)** with the projection in the later of your IWCM Strategy and financial plan and your Strategic Business Plan is **mandatory**.  
In addition, if both indicators 43 and 44 are negative, you must report your proposed 2015-16 typical residential bill to achieve full cost recovery.
4. **Microbiological compliance (Indicator 20)** is a **high priority** for each NSW LWU. Corrective action for non-compliance (≤97%), or any 'boil water alerts' must be reported in your Action Plan. Refer to pages 7, 8 and 28 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report ([www.water.nsw.gov.au](http://www.water.nsw.gov.au)) and NSW Guidelines for drinking water quality management systems, NSW Health and NSW Office of Water, 2013.



## Singleton Shire Council Water Supply – Action Plan Page 2

INDICATOR		RESULT		COMMENT/DRIVERS	ACTION
SOCIAL – LEVELS OF SERVICE					
25	Water quality complaints	2.4 per 1,000 props Median ranking (3, 3)	Satisfactory	Critical indicator of customer service.	
26	Service complaints	38 per 1,000 props Low ranking (4, 5)	May require review	Key indicator of customer service.	
27	Average frequency of unplanned interruptions	48 per 1,000 props Low ranking (4, 4)	May require review	Key indicator of customer service, condition of network and effectiveness of operation.	
30	Number of main breaks	20 per 100km of main Median ranking (3, 4)	Satisfactory	Drivers – condition and age of water mains, ground conditions.	Monitor breaks, including past performance and trends.
32	Total Days Lost	3.3% Low ranking (4, 4)	May require review		
ENVIRONMENTAL					
33	Average annual residential water supplied	297 kL per prop Low ranking (4, 4)		Drivers – available water supply, climate, location (Inland or coastal), pricing signals (Indicator 3), restrictions.	
34	Real losses (leakage)	120 L/c/d Low ranking (4, 4)	May require review	Loss reduction is important where an LWU is facing drought water restrictions or the need to augment its water supply system.	
ECONOMIC					
43	Economic Real Rate of Return (ERRR)	1.3% Median ranking (3, 2)	Satisfactory	Reflects the rate of return generated from operating activities (excluding interest income and grants). An ERRR or ROA of ≥ 0% is required for full cost recovery.	
44	Return on assets (ROA)	3.7% Highest ranking (1, 1)		See 43.	
45	Net debt to equity	-35% Lowest ranking (5, 5)		LWUs facing significant capital investment are encouraged to make greater use of borrowings – page 14 of the 2013-14 NSW Performance Monitoring Report.	
46	Interest cover	>100 Highest ranking (1, 1)	Very good	Drivers – in general, an interest cover > 2 is satisfactory.	
47	Loan payment	\$0 per prop Low ranking (4, 4)		The component of TRB required to meet debt payments. Drivers – expenditure on capital works, short term loans.	
49	Operating cost (OMA)	\$492 per prop Median ranking (3, 3)	Satisfactory	Prime indicator of the financial performance of an LWU. Drivers – development density, level of treatment, management cost, topography, number of discrete schemes and economies of scale.	Review components carefully to ensure efficient operating cost.
51	Management cost	\$151 per prop Median ranking (3, 3)	Satisfactory	Typically about 40% of the OMA. Drivers – No. of employees. No. of small discrete water schemes.	
52	Treatment cost	\$155 per prop Low ranking (4, 4)	May require review	Drivers – type and quality of water source. Size of treatment works	
53	Pumping cost	\$51 per prop Median ranking (3, 3)	Satisfactory	Drivers – topography, development density and location of water source.	
55	Water main cost	\$80 per prop Low ranking (4, 3)	May require review	Drivers – age and condition of mains. Ground conditions. Development density.	
56	Capital expenditure	\$131 per prop Median ranking (3, 3)	Satisfactory	An indicator of the level of investment in the business. Drivers – age and condition of assets, asset life cycle and water source.	

5. Note that by setting its 2015-16 water supply tariff in accordance with Circular LWU 11 of March 2011, Singleton Shire Council would be eligible for 'deemed compliance' for both the 75%/25% split and for full cost recovery in both the 2013-14 and 2014-15 financial years (contact Dilip Dutta on 9842 8499 or Dilip.Dutta@dpi.nsw.gov.au). The 2013-14 Water Supply TBL Performance Report and Action Plan template would be updated by the NSW Office of Water to reflect any such 'deemed compliance' obtained through Council's 2015-16 tariff

## Singleton Shire Council Sewerage – Action Plan Page 1

### Summary

In 2013-14, Singleton Shire Council implemented all the sewerage requirements of the *NSW Best-Practice Management Framework* and its performance has been [to be completed by Council].

Key actions from Council's Strategic Business Plan:

- Insert achievements for Key Action 1 here for Singleton Shire Council
- Insert achievements for Key Action 2 here for Singleton Shire Council

INDICATOR		RESULT <sup>2</sup>		COMMENT/DRIVERS	ACTION
	<b>Best-Practice Management Framework</b>	Implemented all the Best Practice Requirements <sup>1</sup>	Very good	Implementation demonstrates effectiveness and sustainability of water supply and sewerage business. 100% implementation is required for eligibility to pay an 'efficiency dividend'.	Prepare a new 30-year IWCM Strategy, Financial Plan & Report in accordance with the July 2014 IWCM Check List ( <a href="http://www.water.nsw.gov.au">www.water.nsw.gov.au</a> ) as the existing Strategic Business Plan is over 4 years old.
<b>CHARACTERISTICS</b>					
5	Connected property density	37 per km of main	Similar to the statewide median of 38	A connected property density below about 30 can significantly increase the cost per property of providing services.	
7	Renewals expenditure	0.1% Lowest ranking (5, 5)	May require review	Adequate funds must be programmed for works outlined in the Asset Management Plan – page 3 of the 2013-14 NSW Performance Monitoring Report.	<b>FOR INDICATORS 7 to 57</b> Where ranking is low, investigate reasons including past performance and trends, develop remedial action plan and summarise in this column.
8	Employees	1.8 per 1,000 props Median ranking (3, 3)	Satisfactory		
<b>SOCIAL – CHARGES</b>					
12	Typical residential bill <sup>3</sup> (TRB)	\$480 per assessment High ranking (2, 2)		TRB should be consistent with projection in the financial plan. Drivers – OMA Management Cost and Capital Expenditure.	
13	Typical Developer Charges	\$3140 per ET Low ranking (4, 4)			
14	Non-residential sewer usage charge	161c/kL High ranking (2, 3)	Good	Similar to OMA cost of 161c/kL.	
<b>SOCIAL - HEALTH</b>					
16	Sewerage coverage	95.2% High ranking (2, 2)	Good		
17	Percent sewage treated to tertiary level	100% Median ranking (3, 3)	Satisfactory		
18	Percent of sewage volume that complied	100% Highest ranking (1, 1)	Very good	Key indicator of compliance with regulator.	
19	Sewage treatment works compliant at all times	1 of 1		Key indicator of compliance with regulator.	
<b>SOCIAL – LEVELS OF SERVICE</b>					
21	Odour Complaints	0 per 1,000 props Highest ranking (1, 1)	Very good	Critical indicator of customer service and operation of treatment works.	
22	Service complaints	12 per 1,000 props Median ranking (3, 3)	Satisfactory	Key indicator of customer service.	
23 a	Average Duration of Interruption	60 minutes Highest ranking (1, 1)	Very good	Key indicator of customer service, condition of network and effectiveness of operation.	
25	Total Days Lost	2.8% Low ranking (4, 4)	May require review		

1. Council needs to annually 'roll forward', review and update its 30-year total asset management plan (TAMP) and 30-year financial plan, review Council's TBL Performance Report and prepare an **Action Plan** to Council. The Action Plan is to include any actions identified in Council's annual review of its DWMS (Indicator 20) and any section 61 Reports from the NSW Office of Water. Refer to pages 27, 28, 107 and 111 of the 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report.

## Singleton Shire Council Sewerage – Action Plan Page 2

INDICATOR		RESULT		COMMENT/DRIVERS	ACTION
ENVIRONMENTAL					
26	Volume of sewage collected per property	190 kL Median ranking (3, 3)		Compare sewage collected to water supplied.	
27	Percentage effluent recycled	33% High ranking (2, 2)	Good	Key environmental indicator. Drivers – availability of potable water, demand, proximity to customers, environment.	
28	Biosolids reuse	0%	Not reported	Key environmental indicator.	
32	Net Greenhouse gas emissions (WS & Sge)	230 t CO2/1000 props Highest ranking (1, 2)	Very good	Drivers – gravity vs pumped networks, topography, extent of treatment.	
34	Compliance with BOD in licence	100% Highest ranking (1, 1)	Very good	Key indicator of compliance with regulator requirements.	
35	Compliance with SS in licence	100% Highest ranking (1, 1)	Very good	Drivers – algae in maturation ponds, impact of drought.	
36	Sewer main breaks and chokes	11 per 100km of main Highest ranking (1, 2)	Very good	Drivers – condition and age of assets, ground conditions.	
37 a	Sewer overflows to the environment	13 per 100km of main Low ranking (4, 4)	May require review	Drivers – condition of assets, wet weather and flooding.	
39	Non-residential percentage of sewage collected			For non-residential, compare % of sewage collected to indicator 43 (% of revenue).	
ECONOMIC					
43	Non-residential revenue	24% High ranking (2, 2)	Good	See 39 above.	
46	Economic Real Rate of Return (ERRR)	2.9% Highest ranking (1, 1)	Good	Reflects the rate of return generated from operating activities (excluding interest income and grants). An ERRR or ROA of ≥ 0% is required for full cost recovery.	
46 a	Return on assets	5.6% Highest ranking (1, 1)		See 46.	
47	Net debt to equity	-35% Lowest ranking (5, 5)		LWUs facing significant capital investment are encouraged to make greater use of borrowings – page 14 of the 2013-14 NSW Performance Monitoring Report.	
48	Interest cover	>100 Highest ranking (1, 1)	Very good	Drivers – in general, an interest cover of > 2 is satisfactory.	
48 a	Loan payment			The component of TRB required to meet debt payments. Drivers – expenditure on capital works, short term loans.	
50	Operating cost (OMA)	\$306 per prop Highest ranking (1, 1)	Very good	Prime indicator of the financial performance of an LWU. Drivers – development density, level of treatment, management cost, topography, number of discrete schemes and economies of scale.	Review carefully to ensure efficient operating cost.
52	Management cost	\$100 per prop High ranking (2, 2)	Good	Drivers –number of discrete schemes, number of employees. Typically about 40% of OMA.	
53	Treatment cost	\$91 per prop Highest ranking (1, 1)	Very good	Drivers – type and level of treatment, economies of scale.	
54	Pumping cost	\$20 per prop Highest ranking (1, 1)	Very good	Drivers – topography, development density, effluent recycling.	
56	Sewer main cost	\$93 per prop Low ranking (4, 5)	May require review	Drivers – topography, development density, effluent recycling.	
57	Capital expenditure	\$70 per prop Lowest ranking (5, 4)		An indicator of the level of investment in the business. Drivers – age and condition of assets, asset life cycle	

2. The ranking relative to similar size LWUs is shown first (Col. 2 of TBL Report) followed by the ranking relative to all LWUs (Col. 3 of TBL Report).  
3. Review and comparison of the 2014-15 **Typical Residential Bill (Indicator 12)** with the projection in your Strategic Business Plan is **mandatory**.  
In addition, if both indicators 46 and 46a are negative, you must report your proposed 2015-16 typical residential bill to achieve full cost recovery.



## 11 References

### Asset Management Plans

- *Asset Management Plan Sewerage Treatment Network v4.1 June 2015*
- *Asset Management Plan Water Supply Services v4 June 2015*

### CPE Associates

- *Valuation of Water Supply and Sewerage Assets to 30 June 2014: Valuation Report, June 2015*

### DLM Environmental Consultants Pty Ltd

- *Integrated Water Cycle Management Plan Evaluation Study Volume 1 – Report*
- *Integrated Water Cycle Management Plan Evaluation Study Appendices Technical and Supporting Information*

### NSW Office of Water – TBL Sewerage Performance Reports 2013-2014

### NSW Office of Water – TBL Water Performance Reports 2013-2014

### Singleton Council

- *Adopted Fees and Charges 2015/16*
- *100-Year Asset Renewal Summary for Water Supply and Sewerage Services draft February 2009*
- *Community Strategic Plan June 2013*
- *Delivery Program 2014/2018*
- *Operational Plan June 2014*

## Appendix A Compliance with the Department of Primary Industries, Office of Water: “Water Supply and Sewerage Strategic Business Planning and Financial Planning Checklist – July 2014”

### Strategic Business Plan - Checklist

Topic		Outcome Achieved	Comments
<b>1. Executive Summary</b>		Covers all major issues, main actions, a summary of the Financial Plan Report, price path and a 30 year projection for the Typical Residential Bill	Yes
		Includes a plan of the system	Yes
<b>2. Operating Environment Review</b>	A	Includes a mission statement with regard to the water supply and sewerage services	Yes – Section 3
	B	All principal issues are addresses with appropriate strategy, actions and performance indicators in the Strategic Business Plan	Yes – Section 2
	C	A compliance monitoring and reporting system is in place	Yes – Section 2
	D	The regulatory and contractual compliance requirements have been identified	Yes- Section 2
	E	Includes all issues from an operating environment compliance situation analysis	Yes – Section 2
	F	Includes a business and insurable risk profile analysis and a summary of the insurance policies.	To be confirmed
<b>3. Performance Monitoring</b>	A	LWU's latest TBL Performance Report and Action Plan included	Yes – Section 10
	B	In addition to addressing any areas of under-performance, the Action Plan 'closes the planning loop' with the utility's financial plan by: <ul style="list-style-type: none"> <li>Comparing the Typical Residential Bill (TRB) with the projection in the financial plan and documenting any necessary corrective action for implementation by the LWU.</li> <li>Reporting results for the financial year for the key actions set out in the utility's strategic business plan or IWCM strategy, whichever is the more recent.</li> </ul>	Yes – The Financial plan (Section 9.12) recommends that until such time that a comprehensive planning framework is complete, Council will maintain the existing typical residential bills for water fund and sewer fund, with increases in line with inflation.
<b>4 Levels of Service</b>	A	Are clear, meaningful and measurable	Yes – Section 4
	B	Target LOS has been identified. These LOS are also to be used in the IWCM Strategy, Water Cycle Analysis and Projection and Development Servicing Plan.	Yes- Section 4
	C	Includes all issues from a LOS situation analysis	Yes- Situation Analysis provided in Section 2.2
	D	Community consultation is essential on the proposed levels of service* (LOS) in order to negotiate an appropriate balance between LOS and the resulting Typical Residential Bill	Yes- The Water Supply and Sewer Network AM Plans with the same LOS were put out for public consultation in 2014 and 2015
<b>5 Service Delivery</b>	A	Overall service delivery options examined and conclusions reported	Yes- Section5

Topic	Outcome Achieved	Comments
	B Includes examination of project specific service delivery options for the measures included in the Total Asset Management Plan (TAMP).	Yes- General discussion in Section 5
	C The utility is cognisant of 'demand risk' and avoids investing in assets which may become redundant, 'stranded' or oversized, e.g. as a result of a developer obtaining approval to provide water supply and/or sewerage services to a large release area (under the Water Industry Competition Act 1994).	To be addressed in Development Servicing Plan
<b>6. Customer Service Plan</b>	Business Objectives developed for each key result area	Yes- Section 6.1
<b>6.1 Unserved Areas</b>	A All unserved towns and villages listed showing the population, whether the present facilities are satisfactory and the priority ranking of each town/village for option implementation from the IWCM Strategy.	Yes – two villages presently unserved; Bulga and Camberwell
	B Proposals for serving unserved towns and villages are included and discussed in your LWU's strategic business plan and capital works program	Yes- proposal to services Bulga and Camberwell discussed in Section 6.3
<b>6.2 Regulation and Pricing of Water Supply Sewerage and Trade Waste</b>		
<b>A. Full Cost Recovery</b>	Full cost recovery for each of the water supply and sewerage businesses. The total annual revenue should be consistent with the financial plan. This generally results in a positive economic real rate of return (ERRR).	Yes- full cost recovery Yes- total annual revenue consistent with Financial Plan. Vulnerabilities in water fund are discussed
	LWUs which have implemented all of the Best-Practice Management requirements are encouraged to pay an 'efficiency dividend' from the surplus of their water supply and sewerage businesses to the Council's general revenue.	Yes- Section 6.7
<b>B. Water Supply Residential</b>	Pay-for-use: appropriate water usage charge/kL with no water allowance; independent of land value.	Yes – Section 6.7
	At least 75% of residential revenue from water usage charges [for utilities with 4,000 or more connected properties]. If the 75% has not been achieved, will need to increase the water usage charge and reduce the access charge in accordance with Circular LWU11 of March 2011. This is a strategic measure which demonstrably provides great value to the community	See Section 6.7- . In 2014/15, 71% of revenue was from usage charges. Deemed to comply with DPI Water, Water Pricing Sheets 1 to 4 prepared in 2011 following a review of the requirement for a 75%/25% split
<b>C Sewerage: Residential</b>	Uniform annual sewerage bill per residential property, independent of land value	Yes- Section 6.7
<b>D Water Supply: Non-Residential</b>	Two-part tariff with appropriate water usage charge/kL and access charge	Yes – Section 6.7
<b>E Sewerage: Non-Residential</b>	Two-part tariff with appropriate sewer usage charge/kL and sewer discharge factor. The sewer usage charge/kL should approximate the OMA cost and the sewer access charge should be reflective of the cost of providing these sewerage services.	Yes- Section 6.7
<b>F Liquid Trade Waste pricing</b>	Appropriate trade waste fees and charges adopted and implemented for all liquid trade waste dischargers. Such pricing is a requirement of paragraph 86(ii) of the National Water Initiative, 2004.	Yes- Section 6.7
	Appropriate trade waste usage charge implemented for dischargers with prescribed pre-treatment	Yes- Section 6.7

Topic	Outcome Achieved	Comments
	Excess mass charges and non-compliance excess mass charges implemented for large dischargers and industrial waste	Yes- Section 6.7
<b>G. Trade Waste Regulation Policy and Approvals</b>	Trade Waste Regulation Policy in accordance with Reference 5 implemented.	Yes- Section 6.7
	Trade waste approval in accordance with Reference 5 issued to each liquid trade waste discharger.	Yes- Section 6.7
	Annual report provided to NSW Office of Water listing all of the trade waste dischargers approved by Council for the year	Yes- Section 6.7
<b>H Developer Charges</b>	Development Servicing Plan+ with commercial developer charges; disclosure of any cross-subsidies	Yes- Section 6.7
<b>I Dual Water Supplies</b>	LWUs with a dual water supply ie. a potable reticulated water supply for indoor uses and a separate non-potable supply reticulated for outdoor uses to over 50% of their residential customers need to comply with element 2(g) of Criterion 2 in Table 1 on page 25 of the Best-Practice Management Guidelines (Reference 14 on page 15).	Not applicable
<b>6.3 Environmental Management</b>	Summary of LWU's Environmental Management achievements is included.	Yes- Section 6.9
<b>6.4 Water Cycle Analysis and Projection</b>	A Includes a summary of the adopted water conservation program and the key assumptions underpinning the program measures.	Yes- Section 6.5
	B For utilities with 4,000 or more connected properties, has 75%/25% split been achieved with water tariff? If not, update water supply tariff in accordance with Circular LWU11 of March 2011.	See Section 6.7- . In 2014/15, 71% of revenue was from usage charges. Deemed to comply with DPI Water, Water Pricing Sheets 1 to 4 prepared in 2011 following a review of the requirement for a 75%/25% split
	C Water & sewer pricing of all customer categories is best-practice, if not implement best-practice requirements.	See Section 6.7. Best Practice water and sewer pricing has been implemented
	D Is bulk water extraction and production metered and recorded daily? If not, Implement daily metering and recording.	Yes. Bulk water supplied from Glennies Creek Dam is metered and recorded daily.
	E Do all free standing residential premises have separate meters? If not, implement.	Yes. All freestanding properties are individually metered.
	F Do all free standing and multi-unit residential developments (both strata and non-strata) built after July 2007 have separate meters? If not, implement, where cost effective.	Yes – Council Policy No 26016.1 from 29/11/2004 requires that all multi-residential flats or strata units are individually metered
	G Utilities are strongly encouraged to separately meter all new free standing and multi-unit residential and non-residential developments. In addition to encouraging efficient use of water services, this facilitates fair water supply, sewerage and trade waste pricing. Such metering is recommended by the August 2011 Productivity Commission Report No.55	Yes. This requirement has been included as a standard in Singleton Council's Engineering Specifications for Water and Sewer for Developments

Topic	Outcome Achieved	Comments
	H Is customer water consumption billed at least three times a year? If not, implement.	Yes. Water is billed three times per year in January, April and September.
	I Are all your LWU's premises (e.g., parks, ovals, toilets, cemetery, etc) metered and billed? If not, implement.	Yes. All of Council's premises that use water are metered.
	J Review the effectiveness of the adopted demand management measures and summarise the outcomes and planned corrective actions.	To be confirmed
	K Review the effectiveness of any leakage reduction program undertaken and summarise the outcome and the planned corrective actions.	To be confirmed
	L Review the effectiveness of any sewer flow management program undertaken and summarise the outcome and the planned corrective actions.	To be confirmed
	M Briefly review the demographic projection and update as appropriate.	Yes- demographic projection, population growth and industry change reviewed in Section 2.2
	N A scheme specific data collection and monitoring system and plan is in place.	Council has full telemetry system that covers the water and sewer supply networks and a regulator (EPA, NSW Health, DPI Water) approved Water Quality Management System that sets the monitoring programs and risk management review and data collection.
	O Review and update the adopted water cycle projection (water demands and sewer flows and loads) as appropriate.	Council's current IWCM was prepared in 2010. New IWCM due in 2016.
<b>6.5 Integrated Water Cycle Management (IWCM)</b>	A Includes a summary of the adopted IWCM scenario and the principal assumptions/risks underpinning the scenario	Yes- Section 7.2
	Also include review of the principal assumptions and risks underpinning the IWCM Strategy and report outcomes in the strategic business plan. Address matters such as	Council's current IWCM was prepared in 2010. New IWCM to commence in 2016.
	B Assumption 1 – potential unplanned increase in water demand due to a water intensive industry, large new development, etc.	To be covered by new IWCM
	C Assumption 2 – potential unexpected changes to existing water access/use licence regime.	To be covered by new IWCM
	D Assumption 3 – significant potential changes to raw water quality and/or non-compliance with ADWG 2011.	To be covered by new IWCM
	E Assumption 4 – unexpected major change in distribution system characteristics.	To be covered by new IWCM
	F Assumption 5 – unexpected extension/provision of water service to a new area/urban centre.	To be covered by new IWCM
	G Assumption 6 – potential unexpected increase in sewage load due to industry, large development, etc.	To be covered by new IWCM
	H Assumption 7 – unexpected changes in sewage transport system characteristics	To be covered by new IWCM

Topic		Outcome Achieved	Comments
	I	Assumption 8 – potential unexpected changes to existing sewerage management licence regime.	To be covered by new IWCM
	J	Assumption 9 – unexpected extension/provision of sewerage service to new area/urban centre	To be covered by new IWCM
<b>6.6 Drought Management</b>	A	Are all water supply sources suitably monitored (eg. level, flow, relevant water quality) and recorded? If not, implement suitable monitoring and recording.	Discussed in Section 6.5
	B	Includes a graph of the water demand over time with super-imposed restriction periods, storage/ground water level and relevant climatic data since the last SBP Update.	Discussed in Section 6.5
	C	Includes a summary of water supply system performance since the last SBP Update and any management/emergency response actions undertaken.	Discussed in Section 6.5
	D	Review the adopted drought management plan, especially the schedule of trigger points for drought water restrictions and the level of water restrictions, and the associated measures. Update where warranted and include as an Appendix.	Yes – Section 6.5 and Appendix C
<b>6.7 Drinking Water Management System</b>	A	Includes a Report on the complete review of your Drinking Water Management Systems	Yes – Section 6.6
	B	The update items identified in the Report are included in the SBP with appropriate actions and performance indicators.	Yes- Section 6.6
	C	Community involvement and consultation has been undertaken	Yes- Section 6.6
<b>6.8 Community Involvement</b>		Includes a summary of community involvement completed since the last SBP Update	Annual budget placed on exhibition and subsequently adopted. Water Supply and Sewer Network AM Plans placed on public exhibition is 2014 and 2015.
<b>6.9 Work Health and Safety</b>	A	Includes a summary of LWU's work health and safety achievements against the adopted performance indicators.	To be confirmed
	B	Includes a summary of completed audits and any planned corrective actions to achieve target.	To be confirmed
<b>6.10 Other Risk Management Measures</b>		Summary of other risk management measures implemented by your LWU	To be confirmed
<b>7 Total Asset Management Plan</b>	A	Summary of changes required to operation and maintenance (O & M) procedures (eg. to operate new facilities) are reported, including impact on OMA (operation, maintenance and administration) expenditures.	Yes – Section 7
	B	Summary of outstanding Development Consent Conditions relating to capital works projects identified and reported, including impact on costs	Yes- Projects identified and costed in Capital Works Plans for Water and Sewer
	C	Asset register completed and is up to date	Improvement Plan is progress – Section 7.3.

Topic	Outcome Achieved	Comments
	<p>Summary of best-practice operation plan is included. Also report:</p> <ul style="list-style-type: none"> <li>Whether you failed to achieve microbiological compliance with ADWG in either of the last 2 financial years, the corrective action implemented and whether it was successful</li> <li>- Any 'boil water alerts' issued in the last 18 months, the corrective action implemented and whether it was successful</li> <li>Whether the requirements of Circular LWU 18 of June 2014 have been addressed in order to assure the safety of your drinking water supplies.</li> </ul>	<p>Yes – Section 7.3</p> <ul style="list-style-type: none"> <li>100% compliance achieved for microbiological water quality in last two years (2012/13 or 2013/14)</li> <li>No water supply public health incidents in last 18 months (2012/13 or 2013/14)</li> <li>Complies with LWU 18. A complete compliance audit was done on all reservoirs in 2015 and actions are being implemented in 2016.</li> </ul>
	<p>Summary of best-practice maintenance plan is included. Also report your LWU's implementation of any NSW Office of Water section 61 recommendations (Local Government Act 1993) for corrective action with respect to water and sewage treatment works, dams, water recycling systems or biosolids recycling systems.</p>	<p>Yes- Section 7</p> <p>There have been no Section 61 recommendations. Council has responded to recommendations from the Action Plan sent by DPI Water each year as outcomes from the TBL performance reports</p>
	<p>Review and update the existing TAMP in your IWCM Strategy/SBP. New TAMP to show your LWU's 30-year capital works program which nominates each proposed project and its annual capital expenditure, including an evidence based cost-effective asset renewals plan. TAMP is integrated with the strategic business plan to meet the target levels of service. Template is available from NOW (page 16). Disclosure of the funding required for each of growth, improved standards and renewals is required for each project.</p>	<p>Yes- Section 7.5.</p> <p>30 year Capital Works Plans was reviewed with Council's staff in December 2015. The new plan reflects the infrastructure needs forecast by Council staff over the next 30 years, and will be refined when the new Developer Servicing Plan and IWCM is completed.</p>
	<p>All major projects in the TAMP are discussed in the SBP and are consistent with the adopted IWCM Scenario and business objectives.</p>	<p>Yes- Section 7</p>
<b>8 Workforce Plan</b>	<p>Organisation Chart is included.</p>	<p>Yes -Section 8</p>
	<p>Work force requirements to meet the needs of TAMP have been incorporated.</p>	<p>Yes – Section 8</p>
<b>9 Input to Council's Integrated Planning and Reporting</b>	<p>In accordance with SBP Guidelines ( provide water supply and sewerage inputs to your Council's:</p> <ul style="list-style-type: none"> <li>Community Strategic Plan</li> <li>4-year Delivery Plan</li> <li>Annual Operating Plan</li> <li>Annual Report.</li> </ul>	<p>Yes – Appendix B</p>
<b>10. Financial Plan Objective</b>	<p>The financial plan includes all foreseeable costs and income and achieves the lowest uniform level of stable typical residential bill (in Year 2\$) to meet the levels of service negotiated with the community.</p>	<p>Yes – Chapter 9</p>



Topic	Outcome Achieved	Comments
	B Long-term financial sustainability is demonstrated to comply with National Competition Policy and the National Water Initiative.	Long Term financial Sustainability demonstrated through a positive Economic Real Rate of Return. Issues with long term capital works requirements to be addressed through a new SBP
<b>11.Financial Model</b>	LWUs using the FINMOD software for their financial plan have used the latest version (FINMOD 2.1 or FINMOD 4.0).	Yes – Chapter 9
<b>12. Timeframe</b>	The financial plan covers a period of 30 years in accordance with the IWCM Strategy.	Yes – Chapter 9
<b>13. Growth and Assessments</b>	A Input accurate numbers of existing residential and non-residential assessments ,from the water cycle analysis and projection	Number of assessments based on historical information and growth projections
	B New assessments for backlog water supply or sewerage projects are included in the growth projections	Yes
	C Growth projection input into your LWU's financial planning is consistent with the demographic and water cycle analysis and projections and SBP document.	Yes – Section 9.5
<b>14 Interest Rates</b>	Appropriate values have been used. Such rates in July 2014 were: Inflation 2.5% pa Investment 5.5% pa Borrowing 6.5% pa	Key assumptions documented in Section 9.7
<b>15 Grants</b>	No capital works grants under the CTWSS program are assumed after about 2016/17.	Yes
<b>16. Forecast Data</b>	A Forecast data, such as future operation, maintenance and administration (OMA) costs and the income split (between the annual residential revenue and the annual non-residential revenue), have been carefully considered as part of the LWU's total asset management	Yes – Future residential and non-residential considered

Topic		Outcome Achieved	Comments
		<p>Common errors are</p> <p>Neglecting to include increases in operation and maintenance costs associated with proposed capital works such as backlog sewerage or new water and sewage treatment works.</p> <p>Neglecting to make appropriate provision for dividend and tax-equivalent payments (excluding income tax).</p> <p>Neglecting to include future increases in non-residential water supply and sewerage income as a result of removing existing cross-subsidies.</p> <p>Neglecting to include future increases in trade waste income from introducing appropriate trade waste fees and charges for all liquid trade waste dischargers.</p> <p>Neglecting to include reduction in revenue from non-compliance trade waste usage charges and non-compliance excess mass charges mainly due to the installation of appropriate pre-treatment equipment by non-complying trade waste dischargers.</p> <ul style="list-style-type: none"> <li>• Neglecting to include future commercial developer charges.</li> </ul> <p>Neglecting to include the cost of actions in the SBP.</p> <p>Neglecting to exclude from your OMA expenses for activities undertaken on behalf of the Aboriginal Communities Water and Sewerage Program and income received from that Program</p>	All issues addressed
	B	Increases or reductions to OMA costs have been discussed in the SBP document.	Yes – Future Operating Costs (OMA Analysis) included in Section 9.9
<b>17 Residential Bills</b>		The financial plan must provide a 30-year projection of Typical Residential Bills in Year 2\$.	Yes – Section 9.10
<b>18. Results</b>		The input data, key output graphs and the full projected results and the annual financial statements (ie. Income Statement, Balance Sheet and Cash Flow Statement) are included for the preferred case. Results are presented in Year 2 dollars (ie. not in inflated dollars).	Yes – Appendix D & E contains detailed information
<b>19. Sensitivity Analysis</b>	A	Sensitivity Analysis (section 8.3 of the FINMOD User Manual) has been carried out and results are included.	Yes – Section 9.10
	B	A description of the cases analysed, and the reasons for their selection have been included in the SBP document.	Yes – Section 9.10
<b>20 Financial Plan Report and Price Path</b>	A	Financial Plan Report prepared to document your financial planning (example report provided in Appendix E of the FINMOD User Manual - Reference 2). A copy of Appendix E is available on request.	To be considered
	B	Price path adopted for the typical residential bill over the next 4 years in Year 2\$. This provides some price certainty to your LWU's customers.	Yes
<b>21 Annual Update of Financial Plan</b>	A	Following the annual review of your TBL Performance Report you should review and update your total asset management plan and your long-term financial plan.	Yes
	B	Prepare a brief report to Council on your update of the financial plan	To be considered
<b>22 Publication of the SBP and FP</b>		LWU should publish the adopted Strategic Business Plan and Financial Plan on its website.	Subject to Council and DPI Water approval of the Strategic Business Plan

## Appendix B Inputs to Council's Community Strategic Plan, Delivery Program and Operational Plan

When this Strategic Business Plan is adopted by Council, the Integrated Reporting and Planning documents will need to be amended in places. **Table 35** lists a number of items in the Strategic Business Plan and their corresponding reference to the sections of the relevant Council documents.

**Table 35 – Inputs to Community Strategic Plan, Delivery Program and Operational Plan**

Item	Reference in Strategic Business Plan	Reference in Council Integrated Planning and Reporting documents
Capital Works priorities	Section 4.1 Levels of Service Section 7.4.6 New Works Plan	No reference to water supply and sewerage services in the Community Strategic Plan (June 2013).  <b>Delivery Program 2014-2018</b> Section 2.2 Community Strategy: Plan for a sustainable and safe community <ul style="list-style-type: none"> <li>• Maintain standards for water and waste water</li> <li>• Implement Actions in the Drinking Water Quality Management Framework Gap Analysis report</li> <li>• Sewer Treatment Plant upgrade proposal review completed</li> </ul>
Renewals Plan	Section 7.4.7 Renewal Plan	<b>Delivery Program 2014-2018</b> Section 2.2 Community Strategy: Plan for a sustainable and safe community <ul style="list-style-type: none"> <li>• Future proof the waste water treatment system</li> </ul> Section 3.6 Community Strategy: Enable and encourage civic leadership for environmental sustainability <ul style="list-style-type: none"> <li>• Reduce water wastage and water loss within the Singleton Council Water Supply System through a meter replacement program and major carrier main maintenance works</li> <li>• Environment Protection Authority (EPA) load based licence fee reduced</li> <li>• Reported pollutant level reduced by 50% compared with the average level over the last 10 years</li> </ul>
Workforce Plan	Section 5.2 – Options for Alternate Delivery Section 8.3.1 Resourcing the Capital Works Plan	<b>Resourcing Strategy June 2014</b> The Workforce Plan (June 2014) is provided as a separate document to the Resourcing Strategy. The plan contains links to the CSP and the Delivery Program, and include the succession planning initiatives in this SBP.
Recommended Price Path for Typical Residential Bill	Section 9.12 Proposed Price Path	<b>Operational Plan 2015/16</b> Section 5 Revenue Policy - Water and Sewerage Charges

## **Appendix C Review of Drought Management Plan**

Council's *Drought Management and Emergency Response Plan* (DMERP) was prepared in 2010. It is a comprehensive document which describes and details how Singleton Council will manage its water supply during periods of drought.

### ***Strategic Objectives***

To ensure a systematic, timely, effective and efficient response to drought and emergencies which minimises disruption and adverse impact on customers by:-

- Ensuring timely warning of any potential water shortages or supply disruptions and having in place ready response strategies.
- Identifying and responding to long term planning issues to ensure financial capacity to implement necessary infrastructure installation.

### ***Planning Objectives***

To ensure that in the short term:-

- Consumers are made aware of the development of the Response Plan to ensure all stakeholders have an understanding and an ownership of the Plan.
- The Plan identifies all the necessary steps that need to be taken throughout a drought or emergency, including identification of triggers which instigate implementation of management actions.
- The Plan is subject to monitoring and regular review as the system develops
- The Plan is monitored and reviewed throughout the course of a drought or emergency and adjusted where necessary.

And that in the long term

- The agreed level of service, including security of supply satisfies the requirements of the Community at an acceptable cost.
- All feasible options for achieving a balance between supply and demand are evaluated in terms of impact on customers.

### ***Operational Objectives***

To ensure that in the short term:

- In all droughts a minimum supply of at least 120 litres per person per day is provided to accommodate the minimum requirements for health and sanitary purposes. This would apply to Level 6 restrictions. Council has adopted a range of target supply levels under drought conditions, commencing at 260 litres per person per day under Level 1 restrictions.
- The most efficient use is made of water resources during periods of water shortage.
- A reliable assessment of drought or emergency status is made so that Council is aware of what stage of a drought applies and/or how severe the emergency is.

And that in the long term:

- Council is kept informed of demand patterns and customer expectations in relation to desirable levels of services, so that assessments can be made of system reliability during future droughts/emergencies.
- emergency measures caused by supply shortfalls beyond Stage 6 restrictions are not required more often than in 2% of years; that the duration of restrictions (during drought) not exceed 3 months; that the duration of interruption to supply during an extreme emergency not exceed 4 weeks and that the portability of restrictions in any year is, on average, no greater than 10%.

### **Water Supply**

Raw water for the Singleton town supply runs under gravity from the Glennies Creek Dam offtake. While there is currently no need to pump raw water, a pumping station has been installed which is capable of supplying all of Singleton's water needs. Pumping is only required if the dam storage level drops below 25% of capacity. It should be noted, however, that Singleton's annual entitlement of water from Glennies Creek Dam (5,032 ML) represents only 2% of total annual allocations from the Dam.

The filtration plant is computer controlled and is capable of treating up to 340 litres per second or about 30 megalitres per day. The plant operators and computers monitor the operation and the quality of the water, to ensure that it is of a high standard. After filtration, the clean water is distributed to storage reservoirs around the town by a system of pump stations and control valves. The capacity of the system is sufficient to supply the predicted growth of Singleton until at least 2030.

### **Drought History**

There has been a large number of general, declared drought periods in the Hunter area over the past 30 years. Water restrictions were imposed for a six month period during a severe drought event which affected Singleton in the early 1980s. These restrictions were necessary due to very low flows in the Hunter River which caused reductions to irrigation licences. Prior to 1992, when the Glennies Creek Dam and Obanvale Treatment Plant became operational, there were several short term periods of water restrictions due to reduced supply capability. In more recent times, tough water restrictions (Level 3) were imposed in 2008/09, when the capacity of Glennies Creek Dam dropped to as low as 30%. There have been no water restrictions imposed since last SBP update in June 2014.

### **Water Conservation Strategy**

Despite its present water source security and adequate license allocation, since the Glennies Creek Dam and associated water supply and treatment infrastructure were complete and operational in 1992, Singleton Council has endeavoured to control water demand and instill water conservation values throughout the LWU's service area.

A low key annual campaign, involving local print media advertising and media articles, is conducted every spring/summer (October to February) requesting that customers voluntarily reduce consumption as well as providing helpful "tips" on how to save water - particularly in relation to garden and lawn watering. Flyers are regularly included with water rate notices to all Council water consumers.

- Continuation of its successful "Save Water" web site partnership.
- Production of advertising messages, focusing on helpful ways to reduce water consumption.
- Annual advertising campaigns in local radio and print media.
- Production and distribution in October/November of each year of an information brochure, to be delivered to all residences in Singleton, Broke and Jerry's Plains.
- Annual review of water charges to ensure that incentives to control consumption are current.
- Regular media articles to alert the community about trends in consumption, particularly when usage exceeds targets.
- Where necessary and justifiable, requests will be made to residents to voluntarily refrain from fixed sprinkler watering, washing of cars etc. Triggers for a call for voluntary reductions are not set in this Plan, but may coincide with Total Fire Ban days or when high temperatures are predicted during times of historic high water usage.

### ***Trigger Points***

As part of DPI Water's ongoing management of the water resource, the available volumes and allocations of water are determined on a continuous basis. Under these resource management processes, Town water allocation "Trigger Points" should be set in parallel with restrictions to supply as they affect other users.

The restriction triggers set out below are based on DPI Water available water determinations (AWD) announcements which are made under the Water Sharing Plan for the Hunter Regulated Water Source, (commenced 1 July 2004 due to be replaced by 1 July 2014 however the Minister then approved an extension of the plan until 1 July 2016).

The adopted trigger levels are aimed at ensuring that Singleton is affected by water restrictions for less than 10% of the time and no more than 5 times per 100 years. These Triggers have also been adopted by both Muswellbrook and Upper Hunter Shire Councils, as part of a regional approach to water supply management in the region.

<b><i>Water Restriction Level</i></b>	<b><i>Trigger Point</i></b>
1. Low Level Restrictions	10% reduction in High Security Water allocations
2. Moderate Level Restrictions	25% reduction in High Security Water allocations
3. High Level Restrictions	40% reduction in High Security Water allocations

4. Severe Level Restrictions	55% reduction in High Security Water allocations
5. Extreme Level Restrictions	70% reduction in High Security Water allocations
6. Emergency Restrictions	85% reduction in High Security Water allocations

The Levels of Restrictions adopted by Council are in line with the regional restrictions adopted by Upper Hunter, Muswellbrook, Bathurst, Orange, Dubbo, Wellington, Narromine, Warren, Bogan, Bourke, Cobar and Brewarrina Councils.

This regional approach provides a level of uniformity and consistency for these communities and a high degree of flexibility in implementation (because of the six (6) levels adopted).

### ***Reviews of the Drought Management Plan***

The version of the Plan available on Council's website is the 2010 version. It was proposed that the Drought Management and Emergency Response Plan (DMERP) be reviewed annually and any revisions recorded on a Record of Document Control.

Whilst the current DMERP is a thorough and detailed document, and most of the information contained within is still very relevant today, it is missing some of the newer requirements, such as a graph of the water demand over time with super-imposed restriction periods, storage/ground water level and relevant climatic data since the last version.

Drought Management now forms part of the Strategic Business Planning process, and it is recommended that this section be revised after the release of the replacement Water Sharing Plan for the Hunter Regulated Water Source (due 1 July 2016). The updated version should be prepared in accordance with latest requirements of NSW DPI Water.



## Appendix D Capital Works Plans

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SINGLETON COUNCIL - STRATEGIC ACTION PLANNING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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					Total		2015/16		2016/17		2017/18		2018/19		2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29		2029/30		2030/31		2031/32		2032/33		2033/34		2034/35		2035/36		2036/37		2037/38		2038/39		2039/40		2040/41		2041/42		2042/43		2043/44		2044/45																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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**Appendix E    FINMOD Output Data and Input Data for Water Fund**

## Singleton Water 1 : Case 101 2016 Base Case

### Base Forecast Data

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Financial Data																									
Inflation Rate - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rate - Capital Works (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Borrowing Interest Rate for New Loans (%)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Investment Interest Rate (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Number of Assessments																									
Growth Rate (%)																									
Residential Assessments	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Residential Assessments	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total Assessments	0.90	0.89	0.90	0.90	0.90	0.90	0.91	0.90	0.90	0.91	0.90	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92
Number of New Assessments																									
Residential	63	63	64	65	65	66	67	67	68	69	69	70	71	72	72	73	74	74	75	76	77	77	78	79	80
Non-Residential	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total New Assessments	64	64	65	66	66	67	68	68	69	70	70	71	72	73	73	74	75	75	76	77	78	78	79	80	81
Projected Number of Assessments																									
Residential	6348	6411	6475	6540	6605	6671	6738	6805	6873	6942	7011	7081	7152	7224	7296	7369	7443	7517	7592	7668	7745	7822	7900	7979	8059
Non-Residential	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846
Total Projected Assessments	7170	7234	7299	7365	7431	7498	7566	7634	7703	7773	7843	7914	7986	8059	8132	8206	8281	8356	8432	8509	8587	8665	8744	8824	8905
Backlog Assessments																									
Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Backlog Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges / Vacant Assessments (Values in 2015/16 \$)																									
Developer Charges \$/Assessment																									
Residential	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930	4930
Non-Residential	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
Number of Vacant Residential Assessments																									
Average Charge of Vacant Assessments	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
% of Occupied Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depreciation of Existing Plant and Equipment (Values in 2015/16 \$'000)																									
Current Replacement Cost of System Assets	108674																								
Override	130000																								
Written Down Current Cost of System Assets	58256																								
Override	83000																								
Annual Depreciation of Existing System Assets	1763																								
Override	1800																								
Written Down Value of Plant and Equipment	196																								
Override	0																								
Annual Depreciation of Existing Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Singleton Water 1 : Case 101 2016 Base Case

### Base Forecast Data

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Exstino Loan Payments (Values in Inflated \$'000)</b>																									
Existing Loan Payments : Principal (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Loan Payments : Interest (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Capital Works Program (Values in 2015/16 \$'000)</b>																									
Subsidised Scheme (Total:19517)	2595	485	6105	405	5	5	8005	255	5	535	5	5	5	772	5	255	5	5	5	5	5	5	5	5	5
Other New System Assets (Total:10348)	1240	1898	1028	600	784	1958	17	17	0	1521	0	0	0	0	0	1020	0	0	265	0	0	0	0	0	0
Renewals (Total:20142)	1861	1324	753	721	581	528	772	601	668	568	528	601	668	568	772	528	601	668	528	528	596	601	668	528	528
Total Capital Works (Total:50007)	5696	3707	7886	1726	1370	2491	8794	873	673	2624	533	533	606	1440	573	2047	533	606	938	533	533	601	606	673	533
Grant For Acquisition of Assets (% of Subsidised Scheme)	11.56	0.00	49.96	49.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets (\$) (Total:3550)	300	0	3050	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Provided Assets (Total:4200)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
<b>Plant and Equipment Expenditure / Asset Disposol (Values in 2015/16 \$'000)</b>																									
Plant and Equipment Expenditure	0	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	37	0	0	0	0	0	37	0	0
Proceeds from Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Plant and Equipment Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Assets Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of System Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Singleton Water 1 : Case 101 2016 Base Case

### Revised/Additional Forecast Data

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>OMA / Revenue Overrides (Values in 2015/16 \$'000)</b>																									
Administration	607	612	618	624	630	636	642	648	654	660	666	672	678	684	690	696	702	708	714	720	727	734	741	748	755
Override																									
Engineering and Supervision	526	531	536	541	546	551	556	561	566	571	576	581	586	591	596	601	606	612	618	624	630	636	642	648	654
Override																									
Operating Expenses	1516	1529	1543	1557	1571	1585	1599	1613	1628	1643	1658	1673	1688	1703	1718	1734	1750	1766	1782	1798	1815	1832	1849	1866	1883
Override																									
Maintenance Expenses	392	395	399	403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463	467	471	475	479	483	487
Override																									
Energy Costs	157	158	159	160	161	162	163	164	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193	195	197
Override																									
Chemical Costs	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	167	169	171	173	175	177	179	181	183
Override																									
Purchase of Water	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161
Override																									
Other Expenses	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260
Override																									
Other Revenue	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87
Override																									
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Contributions	485	489	493	497	501	506	511	516	521	526	531	536	541	546	551	556	561	566	571	576	581	586	591	596	601
Override																									
<b>Developer Charges Overrides (Values in 2015/16 \$'000)</b>																									
Calculated from Scheme Data	318	318	323	328	328	333	338	338	343	348	348	352	357	362	362	367	372	372	377	382	387	387	392	397	402
Override																									
<b>Pensioner Rebate (Values in Inflated \$)</b>																									
Pensioner Rebate per Pensioner (\$)	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50
Override																									
Pensioner Rebate Subsidy (%)	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Override																									
Number of Pensioner Assessments	798	806	814	822	830	839	847	855	864	873	881	890	899	908	917	926	936	945	954	964	974	983	993	1003	1013
Override																									
Percentage of Pensioners (%)	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57	12.57
Override																									
Pensioner Rebate	70	71	71	72	73	73	74	75	76	76	77	78	79	79	80	81	82	83	83	84	85	86	87	88	89
Override																									
Pensioner Rebate Subsidy	39	39	39	40	40	40	41	41	42	42	42	43	43	43	44	45	45	46	46	46	47	47	48	48	49
Revenue Split (%)																									
Residential Rates	21.73	21.79	21.86	21.92	21.98	22.05	22.11	22.17	22.24	22.30	22.36	22.42	22.48	22.55	22.61	22.67	22.73	22.79	22.85	22.91	22.97	23.03	23.09	23.15	23.21
Override																									
Non-Residential Rates	7.37	7.32	7.28	7.23	7.19	7.15	7.10	7.06	7.02	6.97	6.93	6.89	6.85	6.80	6.76	6.72	6.68	6.64	6.59	6.55	6.51	6.47	6.43	6.39	6.35
Override																									
Sales of Water: Residential	45.16	45.31	45.44	45.58	45.71	45.83	45.97	46.10	46.22	46.36	46.50	46.62	46.74	46.87	47.01	47.13	47.26	47.38	47.52	47.65	47.77	47.89	48.02	48.14	48.26
Override																									
Sales of Water: Non-Residential	25.32	25.16	25.01	24.86	24.71	24.56	24.42	24.27	24.12	23.97	23.82	23.68	23.53	23.39	23.24	23.10	22.95	22.81	22.67	22.52	22.38	22.24	22.10	21.96	21.82
Override																									
Extra Charges	0.42	0.42	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.38	0.38	0.38	0.38	0.37	0.37	0.37	0.37	0.36	0.36	0.36
Override																									
Total Non-Residential Revenue (%)	32.69	32.48	32.29	32.09	31.90	31.71	31.52	31.33	31.14	30.94	30.75	30.57	30.38	30.19	30.00	29.82	29.63	29.45	29.26	29.07	28.89	28.71	28.53	28.35	28.17
Total Residential Revenue (%)	66.89	67.10	67.30	67.50	67.69	67.88	68.08	68.27	68.46	68.66	68.86	69.04	69.23	69.42	69.62	69.80	69.99	70.17	70.37	70.56	70.74	70.92	71.11	71.29	71.47
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

## Singleton Water 1 : Case 101 2016 Base Case

### Operating Statement

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
EXPENSES																									
Management Expenses	1133	1142	1154	1165	1176	1187	1199	1209	1220	1231	1242	1253	1264	1275	1286	1297	1308	1320	1332	1344	1357	1370	1383	1396	1409
Administration	607	612	618	624	630	636	642	648	654	660	666	672	678	684	690	696	702	708	714	720	727	734	741	748	755
Engineering and Supervision	526	531	536	541	546	551	556	561	566	571	576	581	586	591	596	601	606	612	618	624	630	636	642	648	654
Operation and Maintenance Expenses	2352	2379	2412	2433	2454	2474	2495	2517	2539	2562	2585	2607	2631	2654	2677	2700	2726	2750	2776	2801	2827	2853	2879	2905	2931
Operation Expenses	1516	1529	1543	1557	1571	1585	1599	1613	1628	1643	1658	1673	1688	1703	1718	1734	1750	1766	1782	1798	1815	1832	1849	1866	1883
Maintenance Expenses	392	395	399	403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463	467	471	475	479	483	487
Energy Costs	157	158	159	160	161	162	163	164	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193	195	197
Chemical Costs	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	167	169	171	173	175	177	179	181	183
Purchase of Water	137	145	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181
Depreciation	1855	1900	2010	2035	2058	2098	2228	2245	2259	2300	2314	2328	2341	2366	2379	2412	2427	2441	2460	2474	2489	2504	2522	2536	2550
System Assets	1855	1900	2010	2035	2058	2098	2225	2242	2255	2297	2311	2325	2338	2363	2377	2409	2423	2438	2456	2470	2485	2500	2515	2529	2544
Plant & Equipment	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	7	7	7
Interest Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260
TOTAL EXPENSES	5552	5634	5792	5852	5909	5981	6146	6198	6247	6323	6373	6422	6472	6534	6583	6651	6705	6757	6816	6870	6925	6981	7039	7094	7150
REVENUES																									
Rates & Service Availability Charges	1271	1281	1292	1303	1315	1325	1337	1349	1359	1369	1264	1275	1287	1299	1309	1319	1331	1343	1353	1364	1377	1389	1400	1412	1425
Residential	949	959	969	980	990	1001	1012	1023	1033	1043	965	976	987	997	1008	1018	1029	1040	1050	1061	1073	1084	1095	1107	1119
Non-Residential	322	322	323	323	324	324	325	326	326	326	299	300	300	301	301	302	302	303	303	303	304	305	305	305	306
User Charges	3078	3100	3121	3148	3173	3194	3222	3246	3269	3291	3034	3058	3084	3108	3131	3152	3177	3205	3226	3250	3277	3302	3325	3351	3379
Sales of Water : Residential	1972	1993	2013	2036	2059	2080	2104	2127	2148	2169	2006	2028	2051	2073	2095	2115	2138	2163	2184	2207	2231	2255	2277	2301	2327
Sales of Water : Non-Residential	1106	1107	1108	1112	1113	1115	1118	1120	1121	1122	1028	1030	1033	1035	1036	1037	1039	1042	1042	1043	1045	1047	1048	1050	1052
Extra Charges	18	19	18	19	18	19	18	19	19	18	17	17	17	17	17	17	18	17	17	17	17	17	17	17	17
Interest Income	893	809	712	653	641	615	478	395	406	388	379	385	389	379	377	356	350	354	350	352	354	355	355	354	355
Other Revenues	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87
Grants	339	38	3117	241	36	35	35	34	34	34	33	33	32	31	31	31	30	30	29	29	29	28	28	27	27
Grants for Acquisition of Assets	300	0	3080	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate Subsidy	39	38	37	37	36	35	35	34	34	34	33	33	32	31	31	31	30	30	29	29	29	28	28	27	27
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contributions	953	958	967	977	982	993	1004	1009	1020	1031	1037	1046	1057	1068	1074	1085	1095	1101	1112	1123	1133	1139	1150	1161	1172
Developer Charges	318	318	323	328	328	333	338	338	343	348	348	352	357	362	362	367	372	372	377	382	387	387	392	397	402
Developer Provided Assets	150	151	151	152	153	154	154	155	156	157	158	159	159	160	161	162	162	163	163	165	165	166	167	168	169
Other Contributions	485	489	493	497	501	506	511	516	521	526	531	536	541	546	551	556	561	566	571	576	581	586	591	596	601
TOTAL REVENUES	6615	6269	9292	6405	6232	6249	6163	6121	6179	6204	5836	5888	5942	5979	6016	6039	6080	6130	6168	6216	6269	6315	6359	6409	6462
OPERATING RESULT	1063	635	3500	553	323	268	16	-77	-67	-119	-537	-534	-530	-555	-567	-612	-625	-627	-648	-653	-655	-666	-680	-686	-688
OPERATING RESULT (less Grants for Acq of Assets)	763	635	420	350	323	268	16	-77	-67	-119	-537	-534	-530	-555	-567	-612	-625	-627	-648	-653	-655	-666	-680	-686	-688



## Singleton Water 1 : Case 101 2016 Base Case

### Cashflow Statement

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Cashflow From Operating Activities																									
Receipts																									
Rates and Charges	4367	4400	4431	4469	4505	4538	4577	4613	4647	4679	4315	4350	4388	4424	4457	4489	4525	4566	4596	4631	4670	4708	4742	4780	4822
Interest Income	893	809	712	653	641	615	478	395	406	388	379	385	389	379	377	356	350	354	350	352	354	355	355	354	355
Other Revenues	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87
Grants	339	38	3117	241	36	35	35	34	34	34	33	33	32	31	31	31	30	30	29	29	29	28	28	27	27
Contributions	803	807	816	825	829	839	849	854	864	874	879	888	898	908	913	923	933	938	948	958	968	973	983	993	1003
Total Receipts from Operations	6465	6118	9140	6253	6079	6095	6008	5966	6023	6047	5679	5729	5783	5819	5855	5877	5918	5967	6005	6052	6104	6149	6193	6241	6293
Payments																									
Management	1133	1142	1154	1165	1176	1187	1199	1209	1220	1231	1242	1253	1264	1275	1286	1297	1308	1320	1332	1344	1357	1370	1383	1396	1409
Operations (plus WC Inc)	2370	2397	2431	2452	2473	2493	2515	2536	2559	2583	2605	2628	2652	2675	2699	2721	2748	2771	2798	2824	2850	2876	2901	2928	2954
Interest Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260
Total Payments from Operations	3715	3753	3801	3836	3869	3902	3938	3972	4008	4044	4079	4115	4151	4188	4224	4259	4300	4337	4379	4418	4459	4501	4541	4581	4623
Net Cash from Operations	2750	2365	5340	2417	2210	2193	2070	1995	2016	2003	1599	1614	1631	1631	1631	1618	1618	1631	1626	1634	1645	1648	1652	1660	1670
Cashflow from Capital Activities																									
Receipts																									
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments																									
Acquisition of Assets	5696	3726	7964	1752	1397	2553	9091	904	699	2742	560	562	642	1534	614	2202	613	658	1024	585	588	666	712	753	599
Net Cash from Capital Activities	-5696	-3726	-7964	-1752	-1397	-2553	-9091	-904	-699	-2742	-560	-562	-642	-1534	-614	-2202	-613	-658	-1024	-585	-588	-666	-712	-753	-599
CashFlow from Financing Activities																									
Receipts																									
New Loans Required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments																									
Principal Loan Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Cash from Financing Activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL NET CASH	-2946	-1361	-2624	665	813	-360	-7021	1091	1316	-738	1039	1052	989	97	1017	-584	1005	973	602	1049	1058	982	940	907	1071
Current Year Cash	-2946	-1361	-2624	665	813	-360	-7021	1091	1316	-738	1039	1052	989	97	1017	-584	1005	973	602	1049	1058	982	940	907	1071
Cash & Investments @Year Start	31683	28036	26025	22830	22921	23155	22239	14847	15550	16455	15333	15973	16610	17169	16845	17427	16432	17011	17546	17705	18297	18882	19380	19824	20226
Cash & Investments @Year End	28737	26675	23400	23494	23734	22795	15219	15939	16866	15717	16372	17025	17598	17266	17862	16843	17437	17984	18148	18754	19354	19864	20320	20731	21297
Capital Works Funding:																									
Internal Funding for New Works (\$'000)	3535	2395	4123	817	804	2012	8259	282	5	2148	5	5	5	823	6	1371	5	5	295	6	5	5	6	6	6
Internal Funding for Renewals	1861	1331	760	732	592	541	795	622	694	593	555	557	637	712	608	831	571	653	729	579	582	660	669	747	593
New Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	300	0	3080	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Works	5696	3726	7964	1752	1397	2553	9054	904	699	2742	560	562	642	1534	614	2202	576	658	1024	585	588	666	675	753	599



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### Statement of Financial Position

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Cash and Investments</b>	29035	27247	24217	24538	25004	24285	16882	17749	18828	17823	18619	19413	20130	19935	20667	19775	20494	21164	21448	22174	22892	23520	24089	24612	25287
<b>Receivables</b>	840	848	856	864	872	879	887	895	903	911	919	928	936	944	953	962	971	979	988	997	1006	1016	1025	1035	1044
<b>Inventories</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Property, Plant &amp; Equipment</b>	86991	89393	95933	96271	96232	97309	104801	104124	103228	104328	103241	102137	101095	100915	99802	100240	99078	97940	97145	95894	94626	93414	92227	91060	89720
<b>System Assets (1)</b>	86991	89393	95933	96271	96232	97309	104767	104095	103202	104307	103223	102123	101084	100907	99797	100238	99043	97910	97119	95873	94608	93401	92184	91025	89692
<b>Plant &amp; Equipment</b>	0	0	0	0	0	0	34	29	25	22	18	14	11	8	5	2	35	30	26	21	17	13	43	35	28
<b>Other Assets</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ASSETS</b>	<b>116866</b>	<b>117488</b>	<b>121006</b>	<b>121673</b>	<b>122108</b>	<b>122473</b>	<b>122570</b>	<b>122768</b>	<b>122959</b>	<b>123063</b>	<b>122779</b>	<b>122478</b>	<b>122161</b>	<b>121795</b>	<b>121423</b>	<b>120977</b>	<b>120542</b>	<b>120083</b>	<b>119581</b>	<b>119065</b>	<b>118524</b>	<b>117950</b>	<b>117341</b>	<b>116707</b>	<b>116052</b>
<b>LIABILITIES</b>																									
<b>Bank Overdraft</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Creditors</b>	52	53	53	54	54	55	55	56	56	56	56	56	57	58	59	59	60	60	61	61	62	62	63	63	64
<b>Borrowings</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Provisions</b>	230	232	234	236	238	240	242	245	247	249	252	254	256	258	260	263	265	268	271	273	275	277	280	283	285
<b>TOTAL LIABILITIES</b>	<b>282</b>	<b>285</b>	<b>287</b>	<b>290</b>	<b>293</b>	<b>295</b>	<b>297</b>	<b>300</b>	<b>303</b>	<b>305</b>	<b>308</b>	<b>310</b>	<b>313</b>	<b>316</b>	<b>319</b>	<b>322</b>	<b>325</b>	<b>329</b>	<b>331</b>	<b>334</b>	<b>337</b>	<b>339</b>	<b>343</b>	<b>346</b>	<b>349</b>
<b>NET ASSETS COMMITTED</b>	<b>116584</b>	<b>117203</b>	<b>120719</b>	<b>121383</b>	<b>121815</b>	<b>122178</b>	<b>122273</b>	<b>122468</b>	<b>122656</b>	<b>122758</b>	<b>122472</b>	<b>122168</b>	<b>121848</b>	<b>121479</b>	<b>121103</b>	<b>120655</b>	<b>120217</b>	<b>119755</b>	<b>119250</b>	<b>118731</b>	<b>118188</b>	<b>117610</b>	<b>116998</b>	<b>116361</b>	<b>115702</b>
<b>EQUITY</b>																									
<b>Accumulated Operating Result</b>	53297	52632	54848	54064	53069	52042	50789	49474	48200	46905	45224	43587	41994	40415	38862	37302	35767	34268	32784	31331	29912	28516	27140	25793	24475
<b>Asset Revaluation Reserve</b>	62989	65599	68347	71371	74481	77667	80970	84615	88327	92099	96007	99971	103991	108069	112242	116472	120828	125239	129709	134254	138852	143502	148208	152969	157788
<b>TOTAL EQUITY</b>	<b>116286</b>	<b>116631</b>	<b>119902</b>	<b>120339</b>	<b>120545</b>	<b>120689</b>	<b>120609</b>	<b>120658</b>	<b>120694</b>	<b>120651</b>	<b>120225</b>	<b>119779</b>	<b>119317</b>	<b>118810</b>	<b>118299</b>	<b>117722</b>	<b>117160</b>	<b>116575</b>	<b>115949</b>	<b>115311</b>	<b>114649</b>	<b>113955</b>	<b>113229</b>	<b>112480</b>	<b>111712</b>
<b>(1) Notes to System Assets</b>																									
<b>Current Replacement Cost</b>	133985	137185	145209	147090	148765	151656	160810	162031	162982	166082	167055	168034	169018	170824	171823	174194	175212	176235	177553	178589	179631	180679	181733	182793	183859
<b>Less: Accumulated Depreciation</b>	46994	47792	49275	50819	52533	54347	56042	57936	59780	61775	63833	65911	67933	69917	72026	73956	76169	78325	80434	82717	85023	87278	89549	91768	94166
<b>Written Down Current Cost</b>	86991	89393	95933	96271	96232	97309	104767	104095	103202	104307	103223	102123	101084	100907	99797	100238	99043	97910	97119	95873	94608	93401	92184	91025	89692

## Singleton Water 1 : Case 101 2016 Base Case

### Performance Indicators

FINMOD

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Typical Residential Bills	480	480	480	480	480	480	480	480	480	480	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440
Average Residential Bills (2015/16\$)	460	460	461	462	462	461	462	463	463	463	423	425	425	425	425	425	426	427	426	426	427	427	427	427	427
Mgmt Cost / Assessment (2015/16\$)	158	158	158	158	159	158	159	158	158	159	159	159	158	158	158	158	158	158	158	158	158	158	158	158	158
OMA Cost per Assessment (2015/16\$)	467	466	466	467	467	467	467	467	467	467	466	466	466	466	466	466	466	466	467	467	467	467	467	467	467
Operating Sales Margin (%)	-5.31	-6.12	-8.29	-8.43	-8.66	-9.15	-11.13	-11.23	-11.21	-11.74	-20.25	-20.17	-19.99	-20.11	-20.15	-20.46	-20.44	-20.37	-20.55	-20.51	-20.43	-20.50	-20.60	-20.51	-20.41
Economic Real Rate of Return (%)	-0.15	-0.19	-0.30	-0.31	-0.33	-0.36	-0.44	-0.45	-0.46	-0.49	-0.89	-0.90	-0.91	-0.93	-0.95	-0.97	-0.98	-1.00	-1.03	-1.05	-1.07	-1.09	-1.12	-1.14	-1.16
Debt Service Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt/Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Cover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return on capital (%)	0.65	0.54	0.49	0.30	0.26	0.22	0.01	-0.06	-0.05	-0.10	-0.44	-0.44	-0.43	-0.46	-0.47	-0.51	-0.52	-0.52	-0.54	-0.55	-0.55	-0.56	-0.58	-0.59	-0.59
Cash and Investments (2015/16\$'000)	28737	26675	23400	23494	23734	22795	15219	15939	16866	15717	16372	17025	17598	17266	17862	16843	17437	17984	18148	18754	19354	19864	20320	20731	21297
Debt outstanding (2015/16\$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Debt (2015/16\$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Appendix F   FINMOD Output Data and Input Data for Sewer Fund**

## Singleton Sewer : Case 101 - Sewer 2016 Update Base Case

FINMOD

## Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Financial Data</b>																									
Inflation Rate - General (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Inflation Rate - Capital Works (%)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
<b>Borrowing Interest Rate for New Loans (%)</b>																									
Investment Interest Rate (%)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<b>Number of Assessments</b>																									
Growth Rate (%)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Residential Assessments	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Non-Residential Assessments	1.02	1.03	1.03	1.04	1.03	1.03	1.02	1.03	1.02	1.02	1.03	1.02	1.04	1.03	1.03	1.03	1.02	1.03	1.03	1.02	1.02	1.01	1.03	1.03	1.02
Total Assessments	1.02	1.03	1.03	1.04	1.03	1.03	1.02	1.03	1.02	1.02	1.03	1.02	1.04	1.03	1.03	1.03	1.02	1.03	1.03	1.02	1.02	1.01	1.03	1.03	1.02
<b>Number of New Assessments</b>																									
Residential	54	54	55	56	56	57	57	58	58	59	60	60	61	61	62	63	63	64	65	65	66	66	67	68	68
Non-Residential	6	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9	9	9
Total New Assessments	60	61	62	63	63	64	64	65	65	66	67	67	69	69	70	71	71	72	73	73	74	74	76	77	77
<b>Projected Number of Assessments</b>																									
Residential	5448	5502	5557	5613	5669	5726	5783	5841	5899	5958	6018	6078	6139	6200	6262	6325	6388	6452	6517	6582	6648	6714	6781	6849	6917
Non-Residential	503	510	517	524	531	538	545	552	559	566	573	580	588	596	604	612	620	628	636	644	652	660	669	678	687
Total Projected Assessments	5951	6012	6074	6137	6200	6264	6328	6393	6458	6524	6591	6658	6727	6796	6866	6937	7008	7080	7153	7226	7300	7374	7450	7527	7604
<b>Backlog Assessments</b>																									
Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Residential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Backlog Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Developer Charges / Vacant Assessments (Values in 2015/16 \$)</b>																									
Developer Charges \$/Assessment	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140	3140
Residential	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964
Non-Residential	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964	6964
<b>Number of Vacant Residential Assessments</b>																									
Average Charge of Vacant Assessments	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83
% of Occupied Assessments	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Depreciation of Existing Plant and Equipment (Values in 2015/16 \$'000)</b>																									
Current Replacement Cost of System Assets	72135																								
Override	69000																								
Written Down Current Cost of System Assets	31639																								
Override	44000																								
Annual Depreciation of Existing System Assets	1105																								
Override	890																								
<b>Written Down Value of Plant and Equipment</b>																									
Written Down Value of Plant and Equipment	149																								
Override	0																								
Annual Depreciation of Existing Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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## Base Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Existing Loan Payments (Values in Inflated \$'000)</b>																									
Existing Loan Payments : Principal (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Loan Payments : Interest (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Capital Works Program (Values in 2015/16 \$'000)</b>																									
Subsidised Scheme (Total:7416)	209	659	745	189	1540	39	269	1394	1368	13	13	13	13	313	13	172	84	13	13	13	13	13	13	214	13
Other New System Assets (Total:20527)	0	0	2400	0	178	2209	370	212	0	0	0	0	0	0	0	0	0	212	0	0	0	3180	6996	4770	0
Renewals (Total:6852)	612	1166	801	801	182	182	182	182	182	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
Total Capital Works (Total:34795)	821	1825	3946	990	1900	2430	821	1788	1550	135	135	135	135	435	135	294	206	347	135	135	135	3315	7131	5106	135
Grant For Acquisition of Assets (% of Subsidised Scheme)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant For Acquisition of Assets (\$) (Total:0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Provided Assets (Total:4208)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
<b>Plant and Equipment Expenditure / Asset Disposal (Values in 2015/16 \$'000)</b>																									
Plant and Equipment Expenditure	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27	0	27
Proceeds from Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Plant and Equipment Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of Plant and Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Written Down Value of Assets Disposed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain/Loss on Disposal of System Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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## Revised/Additional Forecast Data

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>OMA / Revenue Overrides (Values in 2015/16 \$'000)</b>																									
Administration	360	364	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	449	454	459
Override																									
Engineering and Supervision	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	449	454	459	464	469
Override																									
Operating Expenses	396	400	404	408	412	416	420	424	428	432	436	440	445	450	455	460	465	470	475	480	485	490	495	500	505
Override																									
Maintenance Expenses	475	480	485	490	495	500	505	510	515	520	525	530	536	542	548	554	560	566	572	578	584	590	596	602	608
Override																									
Energy Costs	151	153	155	157	159	161	163	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193	195	197	199
Override																									
Chemical Costs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Override																									
Other Expenses	271	274	277	280	283	286	289	292	295	298	301	304	307	310	313	316	319	322	325	328	331	334	337	340	343
Override																									
Other Revenue	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
Override																									
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override																									
Other Contributions	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Override																									
<b>Developer Charges Overrides (Values in 2015/16 \$'000)</b>																									
Calculated from Scheme Data	211	218	221	225	225	228	228	231	231	234	237	237	247	247	250	254	254	257	260	260	263	263	273	276	276
Override																									
<b>Pensioner Rebate (Values in Inflated \$)</b>																									
Pensioner Rebate per Pensioner (\$)	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50	87.50
Override																									
Pensioner Rebate Subsidy (%)	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Override																									
Number of Pensioner Assessments	713	720	727	735	742	750	757	765	772	780	788	796	804	812	820	828	836	845	853	862	870	879	888	897	905
Override																									
Percentage of Pensioners (%)	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09	13.09
Override																									
Pensioner Rebate	62	63	64	64	65	66	66	67	68	68	69	70	70	71	72	72	73	74	75	75	76	77	78	78	79
Pensioner Rebate Subsidy	34	35	35	35	36	36	36	37	37	37	38	39	39	39	40	40	40	41	41	41	42	42	43	43	43
<b>Revenue Split (%)</b>																									
Residential Rates	76.67	76.62	76.58	76.53	76.49	76.44	76.39	76.34	76.29	76.24	76.19	76.14	76.09	76.04	75.99	75.94	75.89	75.84	75.80	75.75	75.70	75.65	75.60	75.55	75.51
Override																									
Non-Residential Rates	20.78	20.83	20.87	20.92	20.97	21.02	21.07	21.12	21.17	21.22	21.27	21.32	21.37	21.42	21.47	21.52	21.57	21.62	21.67	21.72	21.77	21.82	21.87	21.92	21.97
Override																									
Trade Waste Charges	2.29	2.29	2.29	2.29	2.28	2.28	2.28	2.28	2.28	2.28	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.26	2.26	2.26	2.26	2.26	2.26	2.25
Override																									
Other Sales and charges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Override																									
Extra Charges	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Override																									
Total Non-Residential Revenue (%)	23.07	23.12	23.16	23.21	23.25	23.30	23.35	23.40	23.45	23.50	23.55	23.59	23.64	23.69	23.74	23.79	23.84	23.89	23.93	23.98	24.03	24.08	24.13	24.18	24.22
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Residential Revenue (%)	76.67	76.62	76.58	76.53	76.49	76.44	76.39	76.34	76.29	76.24	76.19	76.14	76.09	76.04	75.99	75.94	75.89	75.84	75.80	75.75	75.70	75.65	75.60	75.55	75.51

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### Operating Statement

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>EXPENSES</b>																									
Management Expenses	728	736	744	752	760	768	776	784	792	801	808	816	824	832	840	848	856	864	872	880	889	898	908	918	928
Administration	360	364	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	449	454	459
Engineering and Supervision	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	449	454	459	464	469
Operation and Maintenance Expenses	1025	1036	1047	1058	1069	1080	1091	1102	1112	1124	1135	1146	1158	1172	1185	1197	1211	1224	1237	1250	1263	1276	1289	1302	1315
Operation Expenses	396	400	404	408	412	416	420	424	428	432	436	440	445	450	455	460	465	470	475	480	485	490	495	500	505
Maintenance Expenses	475	480	485	490	495	500	505	510	515	520	525	530	536	542	548	554	560	566	572	578	584	590	596	602	608
Energy Costs	151	153	155	157	159	161	163	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193	195	197	199
Chemical Costs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Depreciation	899	911	964	969	1000	1038	1053	1079	1104	1106	1109	1110	1112	1119	1123	1128	1131	1137	1140	1142	1145	1196	1306	1384	1387
System Assets	896	908	958	964	993	1031	1043	1069	1092	1094	1096	1098	1100	1108	1111	1116	1119	1125	1128	1130	1133	1184	1294	1373	1375
Plant & Equipment	3	3	6	6	7	7	10	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Interest Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	271	274	277	280	283	286	289	292	295	298	301	304	307	310	313	316	319	322	325	328	331	334	337	340	343
<b>TOTAL EXPENSES</b>	<b>2923</b>	<b>2957</b>	<b>3032</b>	<b>3060</b>	<b>3112</b>	<b>3172</b>	<b>3209</b>	<b>3257</b>	<b>3303</b>	<b>3329</b>	<b>3352</b>	<b>3376</b>	<b>3402</b>	<b>3433</b>	<b>3461</b>	<b>3489</b>	<b>3516</b>	<b>3546</b>	<b>3574</b>	<b>3600</b>	<b>3629</b>	<b>3704</b>	<b>3840</b>	<b>3944</b>	<b>3972</b>
<b>REVENUES</b>																									
Rates & Service Availability Charges	2968	3001	3032	3069	3106	3140	3172	3209	3244	3278	3317	3353	3394	3433	3470	3507	3545	3589	3624	3664	3706	3747	3787	3828	3424
Residential	2335	2360	2383	2410	2437	2463	2486	2514	2539	2565	2593	2620	2650	2678	2706	2733	2760	2793	2818	2847	2879	2908	2937	2967	2652
Non-Residential	633	641	649	659	669	677	686	696	705	713	724	733	744	754	764	774	785	796	806	816	828	839	850	861	772
Trade Waste Charges	70	70	71	72	72	73	74	75	76	77	77	78	79	80	81	81	83	83	84	85	86	87	88	89	79
Other Sales and Charges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extra Charges	8	8	9	8	8	8	9	8	9	9	9	9	10	9	10	10	10	10	10	10	10	10	11	9	9
Interest Income	782	794	725	679	669	632	620	613	598	614	648	680	710	733	759	782	804	822	842	863	882	837	701	597	594
Other Revenues	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
Grants	34	34	33	33	33	32	31	31	30	30	30	30	29	28	28	28	27	27	26	26	26	25	25	24	24
Grants for Acquisition of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pensioner Rebate Subsidy	34	34	33	33	33	32	31	31	30	30	30	30	29	28	28	28	27	27	26	26	26	25	25	24	24
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contributions	363	370	373	377	377	380	379	383	382	385	389	389	399	399	402	406	406	409	412	412	415	415	425	428	428
Developer Charges	211	218	221	225	225	228	228	231	231	234	237	237	247	247	250	254	254	257	260	260	263	263	273	276	276
Developer Provided Assets	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Other Contributions	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>TOTAL REVENUES</b>	<b>4326</b>	<b>4380</b>	<b>4347</b>	<b>4342</b>	<b>4369</b>	<b>4372</b>	<b>4392</b>	<b>4428</b>	<b>4448</b>	<b>4502</b>	<b>4580</b>	<b>4651</b>	<b>4734</b>	<b>4796</b>	<b>4864</b>	<b>4929</b>	<b>4992</b>	<b>5058</b>	<b>5118</b>	<b>5180</b>	<b>5246</b>	<b>5243</b>	<b>5159</b>	<b>5101</b>	<b>4683</b>
<b>OPERATING RESULT</b>	<b>1403</b>	<b>1422</b>	<b>1314</b>	<b>1282</b>	<b>1257</b>	<b>1199</b>	<b>1183</b>	<b>1170</b>	<b>1146</b>	<b>1174</b>	<b>1228</b>	<b>1275</b>	<b>1332</b>	<b>1364</b>	<b>1403</b>	<b>1440</b>	<b>1475</b>	<b>1512</b>	<b>1544</b>	<b>1580</b>	<b>1618</b>	<b>1538</b>	<b>1319</b>	<b>1157</b>	<b>711</b>
<b>OPERATING RESULT (less Grants for Acq of Assets)</b>	<b>1403</b>	<b>1422</b>	<b>1314</b>	<b>1282</b>	<b>1257</b>	<b>1199</b>	<b>1183</b>	<b>1170</b>	<b>1146</b>	<b>1174</b>	<b>1228</b>	<b>1275</b>	<b>1332</b>	<b>1364</b>	<b>1403</b>	<b>1440</b>	<b>1475</b>	<b>1512</b>	<b>1544</b>	<b>1580</b>	<b>1618</b>	<b>1538</b>	<b>1319</b>	<b>1157</b>	<b>711</b>



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## Cashflow Statement

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Cashflow From Operating Activities</b>																									
<b>Receipts</b>																									
Rates and Charges	3046	3079	3112	3150	3186	3222	3254	3293	3329	3364	3403	3440	3483	3522	3561	3598	3638	3682	3718	3759	3803	3844	3885	3928	3512
Interest Income	782	794	725	679	669	632	620	613	598	614	648	680	710	733	759	782	804	822	842	863	882	837	701	597	594
Other Revenues	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
Grants	34	34	33	33	33	32	31	31	30	30	30	30	29	28	28	28	27	27	26	26	26	25	25	24	24
Contributions	213	220	223	227	226	230	229	233	232	235	239	239	249	249	252	256	256	259	262	262	265	265	275	278	278
Total Receipts from Operations	4176	4229	4197	4192	4219	4221	4242	4278	4298	4353	4430	4501	4584	4646	4714	4779	4841	4909	4968	5030	5096	5093	5009	4951	4534
<b>Payments</b>																									
Management	728	736	744	752	760	768	776	784	792	801	808	816	824	832	840	848	856	864	872	880	889	898	908	918	928
Operations (plus WC Inc)	1041	1053	1063	1073	1084	1096	1108	1119	1129	1142	1152	1162	1176	1190	1203	1216	1229	1242	1256	1269	1283	1295	1308	1322	1335
Interest Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Expenses	271	274	277	280	283	286	289	292	295	298	301	304	307	310	313	316	319	322	325	328	331	334	337	340	343
Total Payments from Operations	2040	2062	2084	2106	2127	2150	2173	2195	2216	2240	2261	2283	2307	2332	2356	2380	2403	2428	2453	2477	2503	2527	2553	2580	2606
Net Cash from Operations	2136	2167	2112	2086	2092	2071	2069	2083	2082	2112	2169	2219	2278	2315	2358	2399	2438	2481	2515	2553	2594	2566	2456	2371	1928
<b>Cashflow from Capital Activities</b>																									
<b>Receipts</b>																									
Proceeds from Disposal of Assets	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments</b>																									
Acquisition of Assets	848	1824	3974	991	1927	2430	848	1788	1577	135	162	135	161	435	161	294	233	348	162	135	162	3315	7157	5106	163
Net Cash from Capital Activities	-848	-1824	-3974	-991	-1927	-2430	-848	-1788	-1577	-135	-162	-135	-161	-435	-161	-294	-233	-348	-162	-135	-162	-3315	-7157	-5106	-163
<b>CashFlow from Financing Activities</b>																									
<b>Receipts</b>																									
New Loans Required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Payments</b>																									
Principal Loan Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Cash from Financing Activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL NET CASH</b>	<b>1288</b>	<b>342</b>	<b>-1862</b>	<b>1095</b>	<b>165</b>	<b>-359</b>	<b>1221</b>	<b>295</b>	<b>505</b>	<b>1978</b>	<b>2007</b>	<b>2084</b>	<b>2116</b>	<b>1880</b>	<b>2197</b>	<b>2105</b>	<b>2205</b>	<b>2133</b>	<b>2354</b>	<b>2418</b>	<b>2432</b>	<b>-750</b>	<b>-4702</b>	<b>-2735</b>	<b>1765</b>
<b>Current Year Cash</b>	<b>1288</b>	<b>342</b>	<b>-1862</b>	<b>1095</b>	<b>165</b>	<b>-359</b>	<b>1221</b>	<b>295</b>	<b>505</b>	<b>1978</b>	<b>2007</b>	<b>2084</b>	<b>2116</b>	<b>1880</b>	<b>2197</b>	<b>2105</b>	<b>2205</b>	<b>2133</b>	<b>2354</b>	<b>2418</b>	<b>2432</b>	<b>-750</b>	<b>-4702</b>	<b>-2735</b>	<b>1765</b>
<b>Cash &amp; Investments @Year Start</b>	<b>19283</b>	<b>20069</b>	<b>19914</b>	<b>17612</b>	<b>18250</b>	<b>17966</b>	<b>17178</b>	<b>17950</b>	<b>17800</b>	<b>17859</b>	<b>19353</b>	<b>20839</b>	<b>22363</b>	<b>23882</b>	<b>25134</b>	<b>26664</b>	<b>28068</b>	<b>29034</b>	<b>30895</b>	<b>32438</b>	<b>34006</b>	<b>35049</b>	<b>33950</b>	<b>28535</b>	<b>25171</b>
<b>Cash &amp; Investments @Year End</b>	<b>20571</b>	<b>20412</b>	<b>18052</b>	<b>18707</b>	<b>18415</b>	<b>17607</b>	<b>18399</b>	<b>18245</b>	<b>18305</b>	<b>19836</b>	<b>21360</b>	<b>22922</b>	<b>24479</b>	<b>25763</b>	<b>27331</b>	<b>28770</b>	<b>30273</b>	<b>31668</b>	<b>33249</b>	<b>34856</b>	<b>36437</b>	<b>34799</b>	<b>29249</b>	<b>25801</b>	<b>26937</b>
<b>Capital Works Funding:</b>																									
Internal Funding for New Works (\$'000)	209	659	3146	189	1718	2248	639	1606	1368	13	13	13	13	313	13	172	84	225	13	13	13	3193	7009	4984	13
Internal Funding for Renewals	612	1166	801	801	182	182	182	182	182	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
New Loans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Works	821	1824	3947	991	1900	2430	821	1788	1550	135	135	135	135	435	134	294	206	348	135	135	135	3315	7131	5106	135

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## Statement of Financial Position

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
<b>Cash and Investments</b>	20571	20412	18052	18707	18415	17607	18399	18245	18305	19836	21360	22922	24479	25763	27331	28770	30273	31668	33249	34856	36437	34799	29249	25801	26937
<b>Receivables</b>	466	471	476	481	486	491	496	501	506	511	516	521	526	532	537	543	548	554	560	565	571	577	583	589	595
<b>Inventories</b>	86	87	88	88	89	89	91	92	93	94	95	95	96	97	98	99	100	101	102	103	104	105	106	108	109
<b>Property, Plant &amp; Equipment</b>	44099	45162	48322	48493	49570	51111	51054	51910	52534	51710	50913	50086	49284	48748	47934	47249	46500	45859	45029	44170	43335	45603	51602	55472	54396
<b>System Assets (1)</b>	44075	45141	48281	48459	49517	51066	50994	51861	52471	51661	50851	50037	49221	48698	47871	47200	46437	45809	44966	44120	43272	45553	51539	55422	54333
<b>Plant &amp; Equipment</b>	24	20	41	34	53	45	60	49	62	49	62	49	62	49	63	50	63	50	63	50	63	50	63	50	64
<b>Other Assets</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL ASSETS</b>	<b>65222</b>	<b>66132</b>	<b>66937</b>	<b>67769</b>	<b>68560</b>	<b>69298</b>	<b>70039</b>	<b>70748</b>	<b>71437</b>	<b>72151</b>	<b>72883</b>	<b>73625</b>	<b>74385</b>	<b>75139</b>	<b>75901</b>	<b>76661</b>	<b>77422</b>	<b>78182</b>	<b>78940</b>	<b>79695</b>	<b>80448</b>	<b>81084</b>	<b>81540</b>	<b>81969</b>	<b>82037</b>
<b>LIABILITIES</b>																									
<b>Bank Overdraft</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Creditors</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Borrowings</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Provisions</b>	95	96	96	98	99	100	101	102	103	103	105	106	107	108	109	110	111	112	113	114	115	117	118	119	120
<b>TOTAL LIABILITIES</b>	<b>95</b>	<b>96</b>	<b>96</b>	<b>98</b>	<b>99</b>	<b>100</b>	<b>101</b>	<b>102</b>	<b>103</b>	<b>103</b>	<b>105</b>	<b>106</b>	<b>107</b>	<b>108</b>	<b>109</b>	<b>110</b>	<b>111</b>	<b>112</b>	<b>113</b>	<b>114</b>	<b>115</b>	<b>117</b>	<b>118</b>	<b>119</b>	<b>120</b>
<b>NET ASSETS COMMITTED</b>	<b>65127</b>	<b>66036</b>	<b>66841</b>	<b>67672</b>	<b>68461</b>	<b>69198</b>	<b>69938</b>	<b>70646</b>	<b>71334</b>	<b>72048</b>	<b>72779</b>	<b>73519</b>	<b>74278</b>	<b>75031</b>	<b>75792</b>	<b>76551</b>	<b>77311</b>	<b>78070</b>	<b>78826</b>	<b>79580</b>	<b>80333</b>	<b>80968</b>	<b>81422</b>	<b>81850</b>	<b>81917</b>
<b>EQUITY</b>																									
<b>Accumulated Operating Result</b>	40448	40884	41201	41479	41724	41906	42067	42211	42328	42469	42661	42896	43182	43493	43835	44206	44603	45028	45473	45944	46442	46847	47023	47034	46597
<b>Asset Revaluation Reserve</b>	24679	25152	25640	26193	26736	27292	27871	28435	29007	29579	30118	30623	31096	31538	31957	32345	32707	33042	33353	33636	33891	34120	34399	34817	35319
<b>TOTAL EQUITY</b>	<b>65127</b>	<b>66036</b>	<b>66841</b>	<b>67672</b>	<b>68461</b>	<b>69198</b>	<b>69938</b>	<b>70646</b>	<b>71334</b>	<b>72048</b>	<b>72779</b>	<b>73519</b>	<b>74278</b>	<b>75031</b>	<b>75792</b>	<b>76551</b>	<b>77311</b>	<b>78070</b>	<b>78826</b>	<b>79580</b>	<b>80333</b>	<b>80968</b>	<b>81422</b>	<b>81850</b>	<b>81917</b>
<b>(1) Notes to System Assets</b>																									
<b>Current Replacement Cost</b>	69359	70168	73464	73804	75672	78070	78859	80614	82133	82296	82459	82622	82785	83247	83410	83731	83966	84341	84504	84667	84830	88173	95332	100466	100629
<b>Less: Accumulated Depreciation</b>	25284	25026	25183	25345	26156	27004	27865	28753	29662	30634	31608	32585	33563	34549	35539	36532	37529	38532	39538	40547	41558	42620	43793	45043	46296
<b>Written Down Current Cost</b>	44075	45141	48281	48459	49517	51066	50994	51861	52471	51661	50851	50037	49221	48698	47871	47200	46437	45809	44966	44120	43272	45553	51539	55422	54333

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### Performance Indicators

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40
Typical Residential Bills	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	390
Average Residential Bills (2015/16)	429	429	429	429	430	430	430	431	430	431	431	431	432	432	432	432	432	433	432	433	433	433	433	433	384
Mgmt Cost / Assessment (2015/16)	122	122	123	123	122	123	122	123	122	123	123	123	123	123	122	122	122	122	122	122	122	122	122	122	122
OMA Cost per Assessment (2015/16)	295	295	295	295	295	295	295	295	295	295	295	295	294	295	295	295	295	295	295	295	295	295	295	295	295
Operating Sales Margin (%)	13.88	13.92	12.64	12.90	12.35	11.62	11.40	11.11	10.76	10.97	11.38	11.65	12.19	12.27	12.51	12.73	12.91	13.22	13.36	13.60	13.89	12.97	10.85	9.42	-0.84
Economic Real Rate of Return (%)	1.41	1.39	1.22	1.24	1.19	1.11	1.10	1.07	1.04	1.08	1.14	1.19	1.26	1.29	1.35	1.39	1.44	1.50	1.56	1.62	1.70	1.54	1.20	1.01	0.21
Debt Service Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt/Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest Cover	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return on capital (%)	2.15	2.15	1.96	1.89	1.83	1.73	1.69	1.65	1.60	1.63	1.68	1.73	1.79	1.82	1.85	1.88	1.91	1.93	1.96	1.98	2.01	1.90	1.62	1.41	0.87
Cash and Investments (2015/16\$'000)	20571	20412	18052	18707	18415	17607	18399	18245	18305	19836	21360	22922	24479	25763	27331	28770	30273	31668	33249	34856	36437	34799	29249	25801	26937
Debt outstanding (2015/16\$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Debt (2015/16\$'000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0