



# **Rous Water Development Servicing Plan**

## **Bulk Supply Services**

7 April 2009

## ROUS WATER DEVELOPMENT SERVICING PLAN – BULK SUPPLY

---

### Disclaimer

*This report has been prepared on behalf of and for the exclusive use of Rous Water, and is subject to and issued in accordance with the agreement between Rous Water and Hydrosphere Consulting. Hydrosphere Consulting accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this report by any third party.*

*Copying this report without the permission of Rous Water or Hydrosphere Consulting is not permitted.*

Prepared for Rous Water by:

Hydrosphere Consulting  
Suite 6, 26-54 River Street  
PO Box 7059  
BALLINA 2478 NSW

Telephone: 02 6686 0006  
Facsimile: 02 6686 0084

REV	DESCRIPTION	ORIG	REVIEW	HYDROSPHERE APPROVAL	DATE
0	BULK SUPPLY DSP – DRAFT FOR REVIEW	R CAMPBELL	M HOWLAND	M HOWLAND	23-MAR-09
1	INCORPORATING ROUS WATER COMMENTS	R CAMPBELL	M HOWLAND	M HOWLAND	7-APR-09

## SUMMARY

This Development Servicing Plan (DSP) covers water supply Developer Charges for the provision of bulk water to the whole of the area served by the Rous Water bulk water supply scheme, in the local government areas of:

- Ballina Shire Council, excluding Wardell;
- Byron Shire Council, excluding Mullumbimby;
- Lismore City Council, excluding Nimbin; and
- Richmond Valley Council, excluding Casino and all land west of Coraki.

This document has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the former Department of Land and Water Conservation (DLWC), now Department of Water and Energy (DWE) pursuant to section 306 (3) of the *Water Management Act 2000*.

The timing and expenditures for works serving the area covered by this DSP and the calculation of developer charges is given in Appendix 2. Levels of service to be provided to the service areas are summarised in Section 4.6.

The developer charge for the Rous Water bulk supply area is shown in Table 1.

**Table 1 – Developer Charge**

DSP	Developer Charge (2008/09 \$ per Equivalent Tenement)
Rous Water Bulk Supply	7,941

The developer shall also be liable for all additional works not specifically included in the capital works program, where required to serve the development. The developer shall be responsible for the full cost of the design and construction of water supply reticulation works within subdivisions.

Developer charges relating to this DSP will be reviewed after a period of 5 - 6 years.

In the period between any review, developer charges will be adjusted annually on 1 July on the basis of the movements in the CPI for Sydney, excluding the impact of GST.

Further details relating to the Rous Water Bulk Supply assets and to this DSP can be found in the Background Document in Appendix 1.

## CONTENTS

SUMMARY .....	I
1. INTRODUCTION .....	1
2. ADMINISTRATION .....	1
2.1 Payment of Developer Charges .....	2
2.1.1 Indexation .....	2
2.1.2 Tenement and Demand Projections .....	2
2.1.3 Timing .....	2
2.1.4 Waiver .....	2
2.2 Reticulation Works .....	2
2.3 DSP Review .....	2
3. THE DEVELOPER CHARGES PROCESS .....	3
3.1 Introduction .....	3
3.2 Capital Charge .....	3
3.3 Reduction Amount .....	4
4. ROUS WATER BULK SUPPLY SERVICES .....	4
4.1 Service Area .....	4
4.2 Bulk Water Supply Infrastructure .....	6
4.3 System Capacity .....	6
4.4 Tenement Projections .....	7
4.5 Design Parameters .....	7
4.6 Standards of Service .....	8
4.7 Future Capital Works .....	9
5. CALCULATION OF DEVELOPER CHARGES .....	9
REFERENCES .....	11
APPENDIX 1 - DSP BACKGROUND DOCUMENT	

## 1. INTRODUCTION

Section 64 of the Local Government Act 1993 enables a water supply authority to levy developer charges for water supply management works. This power derives from a cross-reference in that Act to section 306 of the Water Management Act 2000.

A Development Servicing Plan (DSP) is a document which details the water supply developer charges to be levied on development areas utilising a water supply authority's infrastructure.

This DSP covers water supply Developer Charges for the provision of bulk water to the whole of the area served by the Rous Water bulk water supply scheme. The provision of retail water supply services by Rous Water and the Constituent Councils of Lismore, Byron Bay, Ballina and Richmond Valley are covered by separate Development Servicing Plans.

This DSP has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002) issued by the Department for Land and Water Conservation (now Department of Water and Energy - DWE), pursuant to section 306 (3) of the Water Management Act 2000.

This DSP supersedes any other requirements related to bulk water supply developer charges for the areas covered by the DSP. This DSP takes precedence over any of Rous Water's codes or policies where there are any inconsistencies relating to bulk water supply developer charges.

## 2. ADMINISTRATION

<b>DSP Name</b>	Rous Water Bulk Water Supply
<b>DSP Area</b>	The area covered by this DSP is shown in Figure 1, Section 4.
<b>DSP Boundaries</b>	<p>The DSP area boundary is defined as the area served by the Rous Water bulk water supply scheme, in the local government areas (LGAs) of:</p> <ul style="list-style-type: none"> <li>• Ballina Shire Council, excluding Wardell;</li> <li>• Byron Shire Council, excluding Mullumbimby;</li> <li>• Lismore City Council, excluding Nimbin; and</li> <li>• Richmond Valley Council, excluding Casino and all land west of Coraki.</li> </ul> <p>The bulk supply scheme is discussed in Section 4.</p>

Developments may attract contributions where such development will utilise the Rous Water bulk water supply scheme. Additional contributions related to the provision of retail water supply services may also apply.

## **2.1 Payment of Developer Charges**

### **2.1.1 Indexation**

Charges will be indexed on the 1st July each year in line with the Consumer Price Index (CPI, All Groups Sydney) as published by the Australian Bureau of Statistics.

### **2.1.2 Tenement and Demand Projections**

Most types of development will increase the demand on a water supply system. The increase in demand is assessed in terms of equivalent tenements (ET). The calculation of equivalent tenements for each development will be made in accordance with the methods described in the NSW Water Directorate publication *Section 64 Determinations of Equivalent Tenements Guidelines (2005)*.

### **2.1.3 Timing**

The majority of Rous Water's Developer Charges are collected by the Constituent Councils on behalf of Rous Water. On receipt of a Development Application or a Water Service Application, Rous Water, or its agent Council, will advise the charges payable under this DSP.

Payment of developer charges must be made in the form of a cash payment to Rous Water or its agent Council.

The developer contribution will be at the rate that applies at the time of payment i.e. the rate may increase (through indexation or review of this DSP) from the time the condition appears on the notice of development consent until the payment is received.

### **2.1.4 Waiver**

Rous Water may waive developer contributions where the proponent demonstrates to Rous Water's satisfaction that it is a non-profit and charitable organisation, which by virtue of carrying out such development, is considered by Rous Water to be making a significant and positive contribution to the community and is unable to recover the charge from the end user.

## **2.2 Reticulation Works**

The developer shall be responsible for the full cost of the design and construction of water supply reticulation works within developments including subdivisions. The design and construction of the works shall be in accordance with the relevant Council's development specifications for water services.

## **2.3 DSP Review**

Developer charges relating to this DSP will be reviewed after a period of 5-6 years.

### 3. THE DEVELOPER CHARGES PROCESS

#### 3.1 Introduction

Developer charges are up-front charges levied to recover part of the infrastructure costs incurred in servicing new developments or additions/changes to existing developments. Developer charges serve two related functions:

- They provide a source of funding for infrastructure required for new urban development; and
- They provide signals regarding the cost of urban development and thus encourage less costly forms and areas of development.

The Developer Charges calculation is based on the net present value (NPV) approach adopted by the Independent Pricing and Regulatory Tribunal (IPART) for the metropolitan water utilities. The fundamental principle of the NPV approach is that the investment in assets for serving a development area is fully recovered from the development. The investment is recovered through up-front charges (i.e. developer charges) and the present value (PV) of that part of annual bills received from the development in excess of operation, maintenance and administration (OMA) costs.

$$\text{Developer Charge} = \text{Capital Charge (cost of providing the assets)} - \text{Reduction Amount (cost recovered through annual bills).}$$

The Capital Charge and Reduction Amount are discussed further in the following sections. The developer charges process is described fully in the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (December 2002).

NSW non-metropolitan water supply authorities which propose to levy developer charges for water supply and/or sewerage need to prepare DSPs. The DSP details the calculation of the developer charges and is required to be fair and transparent.

Water supply authorities need to calculate and report developer charges in accordance with section 306 (3) of the Water Management Act 2000 and the Guidelines and to register their DSPs with DWE.

Developer charges relating to a particular DSP should be reviewed by the water authority after a period of 5 to 6 years. If the review indicates that the developer charges in the DSP remain valid, the DSP will apply for a further 5 to 6 years after the utility releases a public notice to this effect. However, if it is considered that a new DSP is warranted, then a new DSP shall be prepared, exhibited and registered.

#### 3.2 Capital Charge

The capital cost includes the cost of providing, extending or augmenting assets required, or likely to be required, to provide services to a development area. The capital cost per equivalent tenement (ET) is the value of the relevant assets divided by the capacity of these assets (in ETs).

Typically, the capacity of an asset would not be fully utilised until some time after construction of the asset. The Return on Investment (ROI), also known as a holding charge, is based on the cost of early investment, and recovery of the cost over time. The ROI factor is dependent on the period for take-up of the asset capacity, and the rate of return required for the asset.

$$\text{Capital Charge} = \text{Capital Cost} \times \text{Return on Investment (ROI) Factor}$$

The capital charge is calculated for each service area. Service areas are:

- An area served by a separate water supply system;
- Separate small towns or villages; or
- A new development area of over 500 lots.

Where the capital charges for two or more service areas are within 30% of each other, they are agglomerated into a single DSP area.

### 3.3 Reduction Amount

Rous Water has adopted the Direct NPV method for calculation of the Reduction Amount. This method involves calculation of the renewal works and works to improve standards per ET, plus part of the net debt of the utility per ET.

$$\begin{aligned} \text{Reduction Amount} = & \text{PV (renewals expenditure) per ET} + \\ & \text{PV (works for improving standards) per ET} + \\ & \text{Part of net debt services by annual charges per ET.} \end{aligned}$$

## 4. ROUS WATER BULK SUPPLY SERVICES

### 4.1 Service Area

Rous Water is a single purpose Bulk Water Authority constituted as a County Council under the Local Government Act, 1993. Rous Water provides bulk water to four local water utilities (LWUs) on the far north coast of NSW, servicing the urban areas of the following LGAs:

- Ballina Shire Council, excluding Wardell;
- Byron Shire Council, excluding Mullumbimby;
- Lismore City Council, excluding Nimbin; and
- Richmond Valley Council, excluding Casino and all land west of Coraki.

These LWUs are referred to as the Constituent Councils and are responsible for the distribution and reticulation services from the bulk water meters to customers within their own LGAs. Rous Water is responsible for the construction, extension, protection, maintenance, control and management of bulk water supply works within these areas.

Rous Water's bulk water supply network extends from Ocean Shores in the north and Byron Bay in the east, west to Lismore and south across the Richmond River near Woodburn to Evans Head as shown in Figure 1.



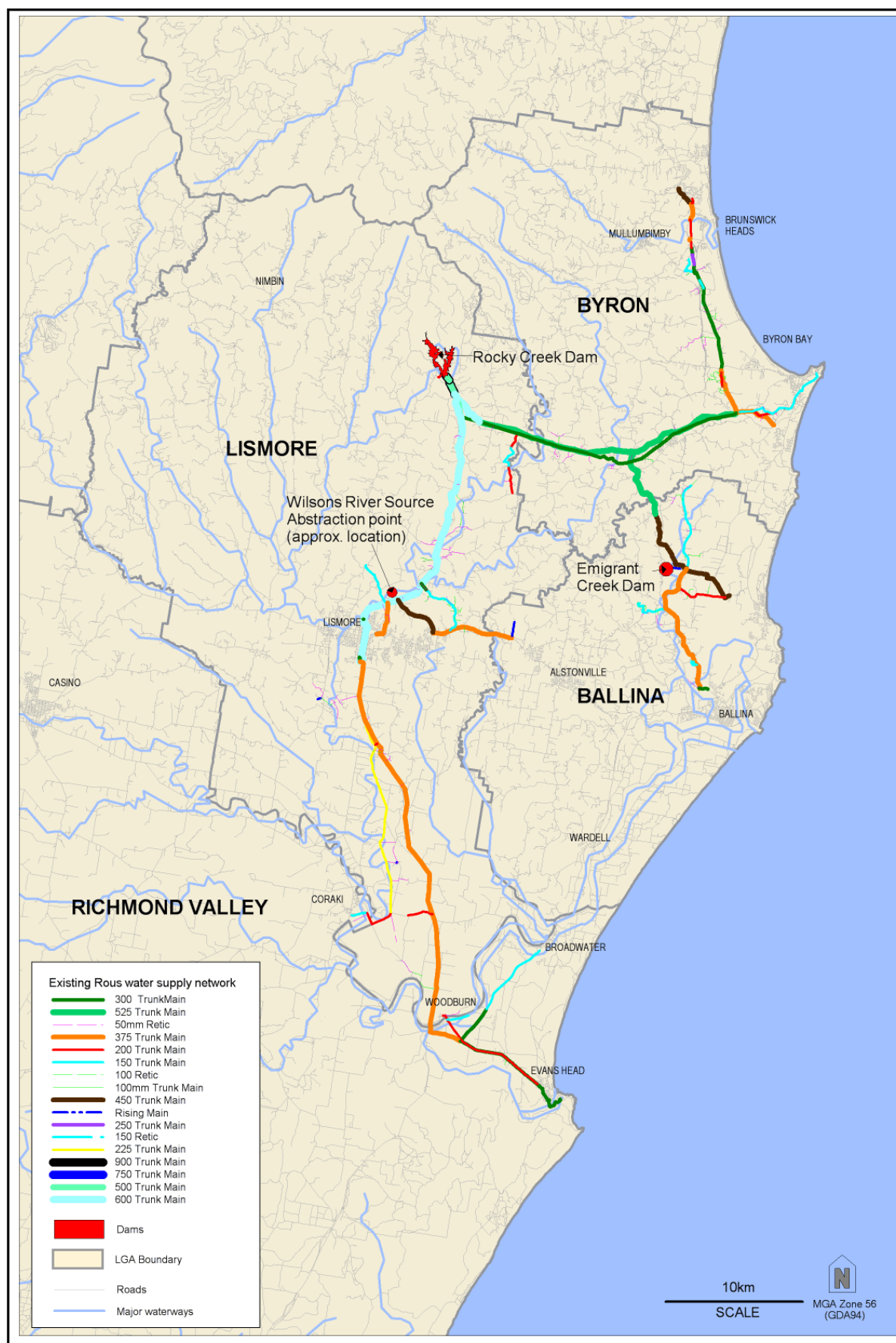


Figure 1 – Rous Water Bulk Supply Scheme

## 4.2 Bulk Water Supply Infrastructure

The principal component of the Rous Water bulk supply network is Rocky Creek Dam, situated 25 km north of Lismore near the village of Dunoon. Other water sources utilised by Rous Water include Emigrant Creek Dam, bores at Convery's Lane and Lumley Park in the Ballina area and bores near Woodburn. An additional surface water source, the Wilsons River Source was commissioned in 2008. Rous Water is also in the process of planning its next water source which will assist in meeting future water demands.

Rous Water is responsible for ensuring adequate treatment processes are in place to ensure the quality of water supplied meets the drinking water guidelines. Water from Rocky Creek Dam and the Wilsons River Source is treated at the 70 ML/d Nightcap Water Treatment Plant (WTP) built in 1991. Water from Emigrant Creek Dam is treated at the 7.5 ML/day Emigrant Creek WTP, commissioned in 2006. Water drawn from the Lumley Park and Convery's Lane groundwater bores is chlorinated prior to being pumped into the network. Water drawn from the Woodburn bores is filtered and chlorinated.

Treated water from the Nightcap WTP is distributed through three trunk mains owned and operated by Rous Water. One trunk main delivers water to Lismore and to the Richmond Valley area. The other two mains supply Lismore City Council, Byron Bay and Ballina Shire. Treated water from Emigrant Creek WTP is distributed to partly meet the water demands of Ballina and Lennox Head.

The Rous Water supply system is interconnected and considered to be a single system with any existing or future customer benefiting equally from all parts of the system. During various operating scenarios, supply to the whole system could be sourced from Rocky Creek Dam or from a combination of sources.

## 4.3 System Capacity

Rous Water plans to augment its water supply systems to cater for population growth, improve security of supply during drought, adapt to new water access rules and to manage water quality. The system capacity is based on the following:

- Headworks – secure yield of water sources (ML/yr) and average annual demand of 200kL/ET/year (refer Table 2);
- Reservoirs – capacity in ML and peak day demand of 2,500L/ET/day (unless the total capacity is less than the distribution system capacity); and
- Distribution system – projected number of tenements served at the end of the design horizon (30 years).

Design demand is based on agreed service levels as documented in the Water Supply Agreement (2008) between Rous Water and the Constituent Councils.

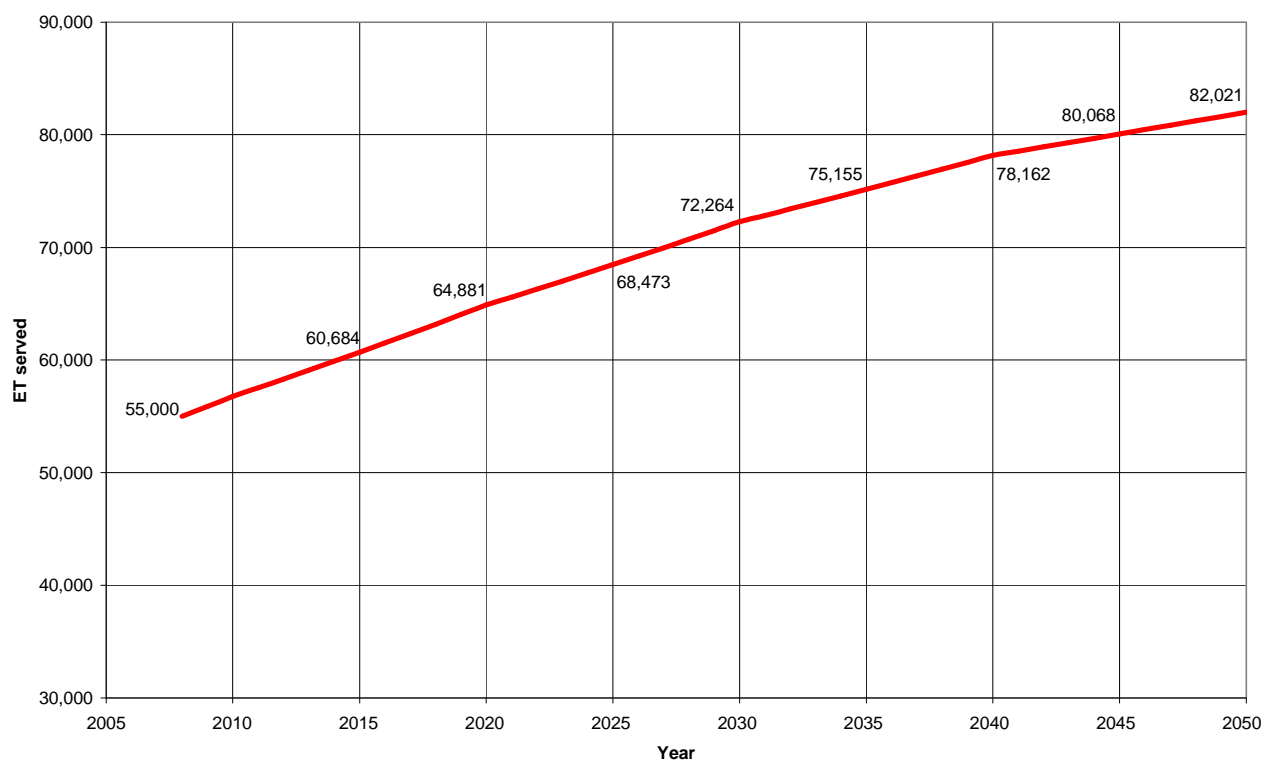
The current system capacity is equivalent to the capacity of all existing sources excluding the Wilsons River Source (which was commissioned in 2008 to serve future customers).

**Table 2 – Headworks Capacity**

Source	Secure Yield (ML/a)	Capacity (ET)
Rocky Creek Dam and Emigrant Creek Dam	10,000	50,000
Bores	1,000	5,000
<i>Existing System Capacity (2008/09)</i>	<i>11,000</i>	<i>55,000</i>
Wilsons River Source	4,200	21,000
<i>Future System Capacity</i>	<i>15,200</i>	<i>76,000</i>

## 4.4 Tenement Projections

Developer charges contribute to the provision of system capacity to meet the demands of future development. New development may be served by a combination of existing and/or new assets. Annual growth (Figure 2) is based on the most probable growth scenario as documented in GeoLINK (2005).



**Figure 2 – Rous Water Growth Projections (ET served)**

Source: GeoLINK (2005)

## 4.5 Design Parameters

Investigation and design of water supply system components is based on the Water Supply Investigation Manual (1986), WSAA water supply code of Australia - WSA 03 2002, and AUSPEC design specifications for water supply.

## 4.6 Standards of Service

System design and operation are based on the following standards of service. The Levels of Service are the targets which Rous Water aims to meet and are not intended as a formal customer contract.

**Table 3 – Levels of Service**

Description	Unit	Level of Service	
		Current	Target
Service Provided			
Service area		Constituent Council areas served by the bulk water supply scheme	Constituent Council areas served by the bulk water supply scheme
Availability of Supply			
Average annual/equivalent tenement (non-drought periods)	kL	200	200
Domestic peak day (non-drought periods)	L/tenement/day	2,500	2,500
Interruptions			
Supply interruptions (90% of time)			
Maximum duration of interruption to supply	Hours	8 (unplanned)	8 (unplanned)
Main breaks	Number	1/20km/year	1/20km/year
Water Quality			
Microbiological Results			
E. Coli	CFU/100 mL	0	0
Total coliforms	CFU/100 mL	0 (95%)	0 (95%)
Residual Chlorine/Chloramines			
Minimum	mg/L	1.5	1.5
Maximum	mg/L	2.0	2.0
Chemical/Physical Results			
Maximum alkalinity	mg/L	50 - 60	50 - 60
Colour	TCU	5	5
Turbidity	NTU	0.5	0.5
pH	-	7.5 – 8.5	7.5 – 8.5
Taste and odour complaints	No/year	<30	<30
Dirty water complaints	No/year	<30	<30

Description	Unit	Level of Service	
		Current	Target
Minimum Sampling carried out to achieve statistical reliability		complies	complies
Corrosion Control (for longevity of assets and minimisation of heavy metals entering water from pipe fittings, household plumbing etc)		Lime/ Carbon Dioxide process at Water Treatment Plants and Woodburn Bores	Lime/ Carbon Dioxide process at Water Treatment Plants and Woodburn Bores

## 4.7 Future Capital Works

Capital works of \$131 M (2008/09 \$) will be required over the next 30 years to provide bulk water supply services (refer Figure 3 and Appendix 2). Any capital works in addition to those identified in this plan will be funded by developers. The developer shall be responsible for the full cost of the design and construction of reticulation works within subdivisions.

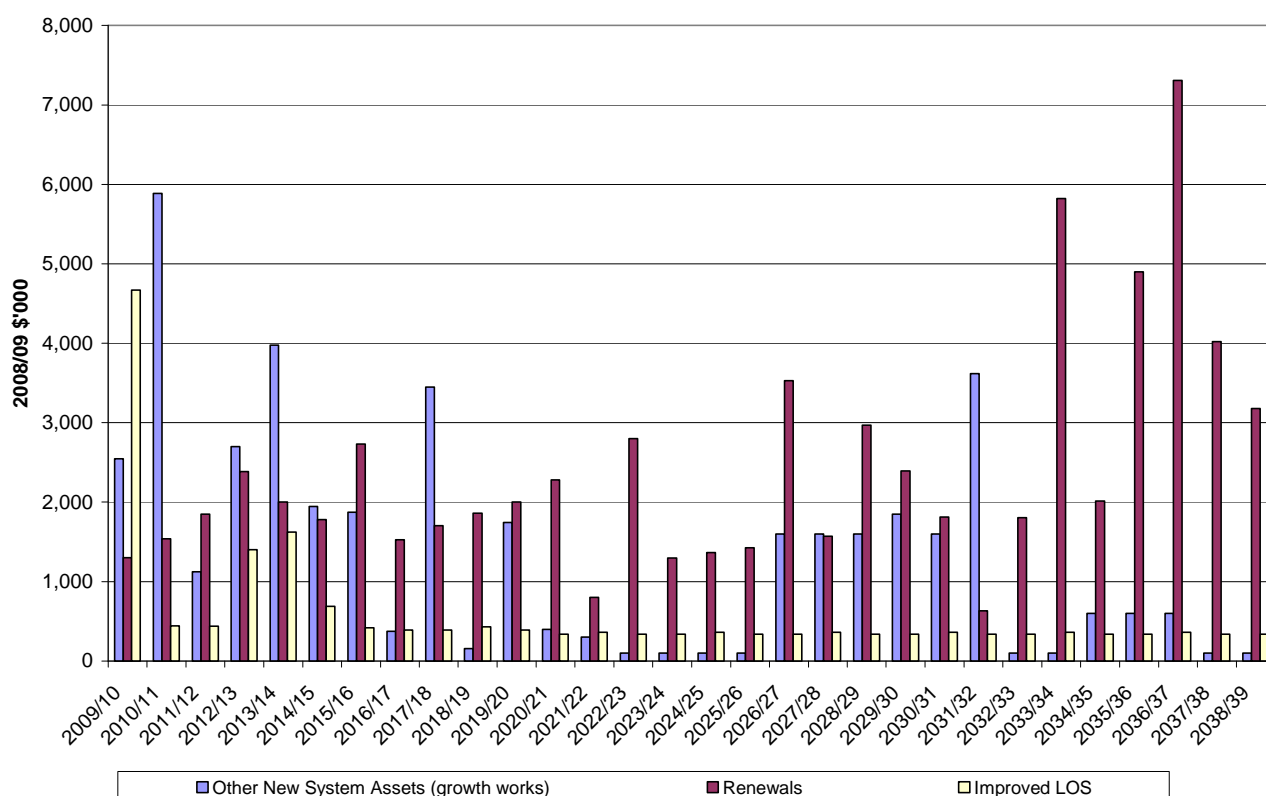


Figure 3 – Capital Works Expenditure

## 5. CALCULATION OF DEVELOPER CHARGES

The developer charge was calculated for the bulk water supply scheme as shown in Table 4. Calculations are given in Appendix 2.

**Table 4 – Calculated Developer Charge (2008/09 \$ per ET)**

<b>Capital Charge</b>	\$9,119 per ET
<b>Reduction Amount</b>	\$1,178 per ET
<b>Developer Charge</b>	\$7,941per ET

Rous Water intends to levy developer charges equivalent to the calculated developer charge. This results in full cost recovery and no cross-subsidy of developer works by existing customers.

Background information and calculations relating to this DSP are included in the Background Document attached in Appendix 2. This document contains detailed calculations for the capital charge and reduction amount, including asset commissioning dates, size/length of existing assets, MEERA valuation of assets and calculation of the reduction amount.

## ABBREVIATIONS AND GLOSSARY

Annual demand	Total annual water consumption
Capital Cost	The present value (MEERA basis) of assets used to service the development
Capital Charge	Capital cost of assets per ET x Return on Investment (ROI) Factor
CFU	Colony forming units
CPI	Consumer Price Index
Developer Charge (DC)	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to ne development.
Discount Rate	The rate used to calculate the present value of money arising in the future.
DSP	Development Servicing Plan
DLWC	(former) Department of Land and Water Conservation
<i>E. coli</i>	<i>Escherichia coli</i>
EP	Equivalent person
ET	Equivalent tenement
IPART	Independent Pricing and Regulatory Tribunal
kL	Kilolitres
L	Litres
LWU	Local water utility
MEERA	Modern Equivalent Engineering Replacement Asset
mg	milligrams
mL	millilitres
ML	Megalitres
NPV	Net present value
NTU	Nephelometric turbidity units
Peak day demand	Highest water consumption (in a day) in the year
PV	Present value.
Reduction Amount	The amount by which the capital charge is reduced to arrive at the developer charge. This amount reflects the present value of the capital contribution that will be paid by the occupier of a development as part of future annual charges.
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, a small separate town or village, or a new development of over 500 lots.
TCU	True colour units
WTP	Water treatment plant

## REFERENCES

DLWC (2002) *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater*.

GeoLINK (2005) *Dunoon Dam - Population and Demand Projections*

NSW Water Directorate (2005) *Section 64 Determinations of Equivalent Tenements Guidelines*.



## **Appendix 1 - DSP Background Document**

## Growth Projections

Permanent Population LGA	% of population in Water Supply Area (GeoLINK, 2005)	Medium Growth Scenario (GeoLINK, 2005)					Permanent population at 2006 Census	Bulk Supply Customers (persons) in 2006
		2001-2010	2010-2020	2020-2030	2030-2040	2040-2050		
Byron Bay	62%	2.5%	2.0%	1.6%	1.4%	1.2%	28,766	17,835
Ballina	82%	2.3%	2.0%	1.5%	0.9%	0.2%	38,461	31,538
Lismore	69%	0.5%	0.4%	0.4%	0.4%	0.4%	42,681	29,450
Richmond Valley	25%	0.8%	0.7%	0.7%	0.7%	0.7%	21,617	5,404
Total Bulk Supply		1.6%	1.3%	1.1%	0.8%	0.5%	131,525	84,227

## Equivalent Tenement (ET) projections

Year	System Demand (ET)
2008	55,000
2009	55,873
2010	56,760
2011	57,524
2012	58,298
2013	59,083
2014	59,878
2015	60,684
2016	61,501
2017	62,329
2018	63,169
2019	64,019
2020	64,881
2021	65,584
2022	66,295
2023	67,013
2024	67,739
2025	68,473
2026	69,215
2027	69,965
2028	70,723
2029	71,490
2030	72,264
2031	72,834
2032	73,407
2033	73,985
2034	74,568
2035	75,155
2036	75,747
2037	76,344
2038	76,945
2039	77,551
2040	78,162

**Rous Water  
Capital Works Program**  
**All values are in year 2008/09 \$'000**

[illegible]

Rous Water  
Capital Works Program  
All values are in year 2008/09 \$'000

Project	Type of works			30 year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	New System Assets	Renewals	Improved LOS	Total	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	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	
Distribution Systems																																			
All	Equipment and tools		100%	305	15	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Bulk	Brunswick 375mm	50%	50%	3,050	2055	995																													
Bulk	Patterson St	50%	50%	100				100																											
Bulk	Knockrow Reservoir	90%	10%	2,495		2495																													
Bulk	Byron 300mm replacement - Dorroughby to Binna Burra	50%	50%	14,200		200		3500	3500	3500	3500																								
Bulk	Bulk Reservoir Bypass		100%	40	40																														
Bulk	Howards Grass Metering		100%	20	20																														
Bulk	Byron 150 replacement (300mm from Coopers Shoot to Cemetery Rd)	50%	50%	1,000		1000																													
Bulk	Tongarra Reservoir connection	100%		70						70																									
Bulk	Byron 375 (Binna Burra to St. Helena)	50%	50%	6,500																					3500	3000									
Bulk	Knockrow 450 duplication	50%	50%	9,000																															
Bulk	Dorroughby 600 upgrade	100%		3,520																			3000	3000	3000										
Bulk	Ballina Trunk Main - Knockrow to Ross Lane Reservoir	100%		1,600											1600																				
Bulk	Surge Tank, Dorroughby	100%		63	63																														
Bulk	Wategoes 150 replacement		100%	770																															
Bulk	Byron Bay 200mm replacement	50%	50%	600													600																		
Bulk	Filling Station replacement		100%	110	20										45														45						
Bulk	Brunswick 300mm replacement		100%	4,500																										900	900	900	900	900	
Bulk	Tullera 150 replacement		100%	1,200																															
Bulk	Warrambool 200mm replacement		100%	90																															
Bulk	Coraki 150 (river crossing to reservoir)		100%	500																										600	600				
Bulk	Richmond Hill 150 replacement		100%	1,750																										500					
Bulk	Langs Hill 200mm replacement		100%	900							900																			350	350	350	350	350	
Bulk	Langs Hill 300mm replacement		100%	1,900																															
Bulk	Ballina 300 (Pacific Hgwy/Gallens Rd)	50%	50%	400																															
Bulk	Ross Lane 200mm		100%	1,700																															
Bulk	Ross St 375		100%	2,500																															
Bulk	City View Drive reservoir - roof replacement		100%	250								250																							
Bulk	Lagoon Grass pump station		100%	400														400																	
Bulk	St. Helena Reservoir	100%		3,250									250	3000																					
Bulk	Evans Head 300mm replacement		100%	6,000																															
Bulk	Coopers Shoot 375 replacement		100%	2,800																													3000	3000	
Bulk	Richmond Hill 300 - replace with 150mm		100%	200																															
Bulk	Broadwater 150		100%	2,300																															
Bulk	Ross St reservoir (remote close)	100%		5	5																														
Bulk	Evans Head 200mm	50%	50%	3,000																															
Bulk	St. Helena Reservoir		100%	250																									250						
Future Water Source																																			
FWS	Project Management	100%		429	101	104	109	115																											
FWS	Legal Advice	100%																																	
FWS	Stakeholder Consultation	100%		953	241	241	241	230																											
FWS	Concept Design and Investigations	100%		1,810	591	513	556	150																											
Other Projects																																			
Depot	Depot upgrading			100%	270				270																										
Depot	Tools and Equipment (Construction Crew)			100%	305																														
Depot	Plant Fleet Replacement			100%	7,600	350	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	
BH	Ballina Heights Dual Water Supply	100%		1,756			1611	145																											
Totals																																			
Other New System Assets (growth works)				40,951	2,548	5,886	1,125	2,700	3,978	1,945	1,875	375	3,449	155	1,745	400	300	100	100	100	100	1,600	1,600	1,600	1,850	1,600	3,620	100	100	600	600	100	100		
Renewals				72,596	1,301	1,538	1,846	2,383	2,003	1,780	2,730	1,526	1,704	1,860	2,004	2,280	802	2,801	1,297	1,368	1,428	3,527	1,570	2,970	2,391	1,811	631	1,805	5,821	2,015	4,900	7,308	4,020	3,177	
Improved LOS				17,899	4,669	445	440	1,399	1,626	690	420	390	390	430	390	340	365	340	340	365	340	340	365	340	340	365	340	340	365	340	340	365	340	340	
Asset Owner Totals																																			
Catchment Assets				8,554	289	239	234	662	702	535	265	408	288	535	339	220	255	231	160	220	288	259	235	195	181	276	214	195	249	195	160	195	160	170	
Source and Treatment				32,431	4,713	201	1,856	1,185	3,135	40	90	1,113	1,985	1,595	230	30	142	1,490	57	573	1,220	1,938	30	1,445	630	230	587	35	1,617	40	360	2,558	130	3,177	
Distribution System				77,338	2,218	4,700	10	3,610	3,510	3,580	4,410	510	3,010	55	3,310	2,510	810	1,260	1,260	780	100	3,010	3,010	3,010	3,510	3,010	3,530	1,755	4,160	2,460	5,060	5,260	3,910	10	
Future Water Source				3,192	933	858	906	495																											
Other Projects				9,931	365	1,871	405	530	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	
Expected Grants																																			
RCD	Rocky Creek Dam Embankment Upgrade	Subsidy	20%	603	603																														
Total Grants																																			
				603	603																														

Rous Water Bulk Water Supply Scheme														
<b>Capital Charge Calculation</b>														
Pre 1996 discount rate	3%				Summary									
Post 1996 discount rate	7%				per ET			Total						
Peak day demand (L/ET/d)	2,500				Capital charge			\$9,119		2008/09\$ per ET				
Asset	Capital cost (\$'000) <sup>1</sup>	Year dollars <sup>2</sup>	Capital Cost (\$'000, 2009\$) <sup>3</sup>	Year commiss-ioned	Effective year commiss-ioned	Present value 2009 (\$'000) <sup>4</sup>	Capacity (ML)	Capacity (ETs)	Capital cost (\$/ET)	Year of full take-up	Years to full take-up	Discount Rate	ROI factor	Capital Charge (\$/ET)
<b>Existing Water Sources and Treatment</b>														
Bores	2	2008	2	1965	1996	2			0	2039	44	3%	1.76	0
Bores	500	2008	515	1967	1996	515			7	2039	44	3%	1.76	12
Bores	40	2008	41	1972	1996	41			1	2039	44	3%	1.76	1
Bores	53	2008	55	1977	1996	55			1	2039	44	3%	1.76	1
Bores	160	2008	165	1982	1996	165			2	2039	44	3%	1.76	4
Bores	4	2008	4	1987	1996	4			0	2039	44	3%	1.76	0
Bores	91	2008	93	1992	1996	93			1	2039	44	3%	1.76	2
Bores	24	2008	24	1994	1996	24			0	2039	44	3%	1.76	1
Bores	195	2008	200	1997	1997	200			3	2039	43	7%	2.98	8
Bores	38	2008	39	1999	1999	39			1	2039	41	7%	2.86	1
Bores	29	2008	29	2001	2001	29			0	2039	39	7%	2.75	1
Bores	65	2008	67	2006	2006	67			1	2039	34	7%	2.47	2
Bores	12	2008	12	2007	2007	12			0	2039	33	7%	2.42	0
Emigrant Creek Dam	12,423	2008	12,793	1964	1996	12,793			168	2039	44	3%	1.76	296
Emigrant Creek Dam	294	2008	303	1997	1997	303			4	2039	43	7%	2.98	12
Emigrant Creek Dam	3	2008	3	1999	1999	3			0	2039	41	7%	2.86	0
Emigrant Creek Dam	215	2008	221	2005	2005	221			3	2039	35	7%	2.53	7
Emigrant Creek Dam	10,287	2008	10,594	2006	2006	10,594			139	2039	34	7%	2.47	345
Night Cap WTP	27,764	2008	28,592	1992	1996	28,592			376	2039	44	3%	1.76	663
Night Cap WTP	20	2008	21	1997	1997	21			0	2039	43	7%	2.98	1
Night Cap WTP	15	2008	15	1998	1998	15			0	2039	42	7%	2.92	1
Night Cap WTP	5	2008	5	1999	1999	5			0	2039	41	7%	2.86	0
Night Cap WTP	15	2008	15	2000	2000	15			0	2039	40	7%	2.80	1
Night Cap WTP	774	2008	797	2001	2001	797			10	2039	39	7%	2.75	29
Night Cap WTP	161	2008	166	2002	2002	166			2	2039	38	7%	2.69	6
Night Cap WTP	172	2008	177	2003	2003	177			2	2039	37	7%	2.64	6
Night Cap WTP	38	2008	39	2004	2004	39			1	2039	36	7%	2.58	1
Night Cap WTP	161	2008	165	2005	2005	165			2	2039	35	7%	2.53	5
Night Cap WTP	3,954	2008	4,071	2006	2006	4,071			54	2039	34	7%	2.47	132
Night Cap WTP	5	2008	5	2007	2007	5			0	2039	33	7%	2.42	0
Rocky Creek Dam	45,277	2008	46,627	1953	1996	46,627			614	2039	44	3%	1.76	1,081
Rocky Creek Dam	260	2008	268	2005	2005	268			4	2039	35	7%	2.53	9
Rocky Creek Dam	18	2008	19	2005	2005	19			0	2039	35	7%	2.53	1
NWTP Disabled ramp access	70	2008	72	2009	2009	72			1	2039	31	7%	2.31	2
RCD Safety upgrade	100	2009	100	2009	2009	100			1	2039	31	7%	2.31	3
ECD upgrade diffusers	15	2009	15	2009	2009	15			0	2039	31	7%	2.31	0
ECWTP shower, laundry	10	2009	10	2009	2009	10			0	2039	31	7%	2.31	0
2009 NCWTP Asset expenditure	501	2009	501	2009	2009	501			7	2039	31	7%	2.31	15
Telemetry and bulk meters	96	2009	96	2009	2009	96			1	2039	31	7%	2.31	3
<b>Future Water Sources and Treatment</b>														
Wilson's River Source	40,500	2009	40,500	2009	2009	40,500			533	2039	31	7%	2.31	1,232
Future Water Source Investigations	698	2009	698	2009	2009	698			9	2039	31	7%	2.31	21
Future Water Source	933	2009	933	2010	2010	872			11	2039	30	7%	2.26	26
Future Water Source	858	2009	858	2011	2011	749			10	2039	29	7%	2.21	22
Future Water Source	906	2009	906	2012	2012	740			10	2039	28	7%	2.16	21
Future Water Source	495	2009	495	2013	2013	378			5	2039	27	7%	2.11	10
NCWTP - Additional Centrifuge and WTS upgrade	445	2009	445	2010	2010	416			5	2039	30	7%	2.26	12
NCWTP - Major Machinery Upgrade	1,130	2009	1,130	2018	2018	615			8	2039	22	7%	1.86	15
NCWTP - Major Machinery Upgrade	150	2009	150	2019	2019	76			1	2039	21	7%	1.81	2
NCWTP - Major Machinery Upgrade	150	2009	150	2020	2020	71			1	2039	20	7%	1.76	2
Perradenya Water Reclamation Plant	300	2009	300	2013	2013	229			3	2039	27	7%	2.11	6
Perradenya Water Reclamation Plant	2008	2009	2,008	2014	2014	1,432			19	2039	26	7%	2.05	39
<b>Total Water Sources and Treatment</b>	<b>152,434</b>					<b>153,713</b>		<b>76,000</b>	<b>2,023</b>					<b>4,062</b>
<b>Existing Transfer System</b>														
Trunk Mains	412	2008	424	1970	1996	424			6	2039	44	3%	1.76	10
Trunk Mains	856	2008	881	1971	1996	881			11	2039	44	3%	1.76	20
Trunk Mains	31,116	2008	32,044	1972	1996	32,044			416	2039	44	3%	1.76	733
Trunk Mains	3,498	2008	3,602	1974	1996	3,602			47	2039	44	3%	1.76	82
Trunk Mains	515	2008	530	1975	1996	530			7	2039	44	3%	1.76	12
Trunk Mains	4,046	2008	4,166	1976	1996	4,166			54	2039	44	3%	1.76	95
Trunk Mains	8,594	2008	8,850	1977	1996	8,850			115	2039	44	3%	1.76	203
Trunk Mains	1,474	2008	1,518	1978	1996	1,518			20	2039	44	3%	1.76	35
Trunk Mains	351	2008	362	1979	1996	362			5	2039	44	3%	1.76	8
Trunk Mains	2,802	2008	2,885	1981	1996	2,885			37	2039	44	3%	1.76	66
Trunk Mains	33,394	2008	34,391	1982	1996	34,391			447	2039	44	3%	1.76	787
Trunk Mains	34,690	2008	35,725	1983	1996	35,725			464	2039	44	3%	1.76	818
Trunk Mains	4,388	2008	4,519	1984	1996	4,519			59	2039	44	3%	1.76	103
Trunk Mains	6,456	2008	6,649	1985	1996	6,649			86	2039	44	3%	1.76	152
Trunk Mains	7,929	2008	8,165	1986	1996	8,165			106	2039	44	3%	1.76	187

S:\Projects\08-015 Rous Water DSP Review\Working\Calculations\DSP\Bulk\No Dam\Capital Charge Draft C No Dam.xls\Capital Charge 3/04/2009 Page 2 of 4

Rous Water Bulk Water Supply Scheme														
<b>Capital Charge Calculation</b>														
Pre 1996 discount rate	3%				Summary									
Post 1996 discount rate	7%				per ET			Total						
Peak day demand (L/ET/d)	2,500				Capital charge			\$9,119		2008/09\$ per ET				
Asset	Capital cost (\$'000) <sup>1</sup>	Year dollars <sup>2</sup>	Capital Cost (\$'000, 2009\$) <sup>3</sup>	Year commiss-ioned	Effective year commiss-ioned	Present value 2009 (\$'000) <sup>4</sup>	Capacity (ML)	Capacity (ETs)	Capital cost (\$/ET)	Year of full take-up	Years to full take-up	Discount Rate	ROI factor	Capital Charge (\$/ET)
<b>Existing Catchment Assets</b>														
Access Control	1	2008	1	1992	1996	1			0.0	2039	44	3%	1.76	0.0
Access Control	7	2008	8	1997	1997	8			0.1	2039	43	7%	2.98	0.3
Access Control	16	2008	16	2001	2001	16			0.2	2039	39	7%	2.75	0.6
Roads and Trails	32	2008	33	1983	1996	33			0.4	2039	44	3%	1.76	0.8
Roads and Trails	5	2008	5	1989	1996	5			0.1	2039	44	3%	1.76	0.1
Roads and Trails	63	2008	65	1992	1996	65			0.8	2039	44	3%	1.76	1.5
Roads and Trails	86	2008	88	1995	1996	88			1.1	2039	44	3%	1.76	2.0
Roads and Trails	93	2008	96	1998	1998	96			1.2	2039	42	7%	2.92	3.6
Walking Tracks	6	2008	6	1983	1996	6			0.1	2039	44	3%	1.76	0.1
Walking Tracks	71	2008	73	1989	1996	73			1.0	2039	44	3%	1.76	1.7
Walking Tracks	29	2008	30	1995	1996	30			0.4	2039	44	3%	1.76	0.7
Walking Tracks	24	2008	25	2000	2000	25			0.3	2039	40	7%	2.80	0.9
Walking Tracks	130	2008	133	2001	2001	133			1.7	2039	39	7%	2.75	4.8
Walking Tracks	20	2008	21	2002	2002	21			0.3	2039	38	7%	2.69	0.7
Walking Tracks	120	2008	124	2003	2003	124			1.6	2039	37	7%	2.64	4.2
Buildings/Amenities	6	2008	6	1983	1996	6			0.1	2039	44	3%	1.76	0.1
Buildings/Amenities	33	2008	34	1989	1996	34			0.4	2039	44	3%	1.76	0.8
Buildings/Amenities	8	2008	8	1995	1996	8			0.1	2039	44	3%	1.76	0.2
Buildings/Amenities	21	2008	22	2000	2000	22			0.3	2039	40	7%	2.80	0.8
Benches and seats	4	2008	4	1995	1996	4			0.1	2039	44	3%	1.76	0.1
Benches and seats	30	2008	31	2001	2001	31			0.4	2039	39	7%	2.75	1.1
Benches and seats	13	2008	13	2003	2003	13			0.2	2039	37	7%	2.64	0.5
Benches and seats	8	2008	8	2006	2006	8			0.1	2039	34	7%	2.47	0.2
Bins	1	2008	1	1998	1998	1			0.0	2039	42	7%	2.92	0.0
Bins	3	2008	3	2001	2001	3			0.0	2039	39	7%	2.75	0.1
Bins	1	2008	1	2003	2003	1			0.0	2039	37	7%	2.64	0.0
Bins	0	2008	0	2006	2006	0			0.0	2039	34	7%	2.47	0.0
Board Walk	69	2008	71	2003	2003	71			0.9	2039	37	7%	2.64	2.4
Board Walk	15	2008	15	2006	2006	15			0.2	2039	34	7%	2.47	0.5
Bollards	0	2008	0	2001	2001	0			0.0	2039	39	7%	2.75	0.0
Bollards	1	2008	1	2003	2003	1			0.0	2039	37	7%	2.64	0.0
Bollards	0	2008	0	2006	2006	0			0.0	2039	34	7%	2.47	0.0
Closed trail gate	3	2008	3	1992	1996	3			0.0	2039	44	3%	1.76	0.1
Closed trail gate	6	2008	6	1997	1997	6			0.1	2039	43	7%	2.98	0.2
Closed trail gate	12	2008	12	2001	2001	12			0.2	2039	39	7%	2.75	0.4
Educational	14	2008	14	2001	2001	14			0.2	2039	39	7%	2.75	0.5
Educational	91	2008	94	2003	2003	94			1.2	2039	37	7%	2.64	3.2
Educational	4	2008	4	2006	2006	4			0.0	2039	34	7%	2.47	0.1
Fireplace	1	2008	1	1995	1996	1			0.0	2039	44	3%	1.76	0.0
Fireplace	1	2008	1	1998	1998	1			0.0	2039	42	7%	2.92	0.0
Formed steps	1	2008	1	1989	1996	1			0.0	2039	44	3%	1.76	0.0
Formed steps	3	2008	3	1995	1996	3			0.0	2039	44	3%	1.76	0.1
Information	4	2008	4	1995	1996	4			0.1	2039	44	3%	1.76	0.1
Information	14	2008	14	1998	1998	14			0.2	2039	42	7%	2.92	0.5
Information	17	2008	18	2001	2001	18			0.2	2039	39	7%	2.75	0.6
Information	14	2008	15	2003	2003	15			0.2	2039	37	7%	2.64	0.5
Information	7	2008	7	2006	2006	7			0.1	2039	34	7%	2.47	0.2
Locked gate	1	2008	1	1992	1996	1			0.0	2039	44	3%	1.76	0.0
Locked gate	4	2008	4	2001	2001	4			0.0	2039	39	7%	2.75	0.1
Locked gate	4	2008	5	2006	2006	5			0.1	2039	34	7%	2.47	0.1
Log fence	0	2008	0	1992	1996	0			0.0	2039	44	3%	1.76	0.0
Picnic shelters	195	2008	201	1985	1996	201			2.6	2039	44	3%	1.76	4.6
post line fence	0	2008	0	2001	2001	0			0.0	2039	39	7%	2.75	0.0
Ramp-Grid	0	2008	0	1992	1996	0			0.0	2039	44	3%	1.76	0.0
Regulatory	1	2008	1	1995	1996	1			0.0	2039	44	3%	1.76	0.0
Regulatory	1	2008	1	1998	1998	1			0.0	2039	42	7%	2.92	0.0
Regulatory	1	2008	1	2001	2001	1			0.0	2039	39	7%	2.75	0.0
Regulatory	5	2008	5	2003	2003	5			0.1	2039	37	7%	2.64	0.2
Regulatory	13	2008	13	2006	2006	13			0.2	2039	34	7%	2.47	0.4
Swings	2	2008	2	2001	2001	2			0.0	2039	39	7%	2.75	0.1
Swings	2	2008	2	2003	2003	2			0.0	2039	37	7%	2.64	0.1
Tap - Potable	5	2008	5	1995	1996	5			0.1	2039	44	3%	1.76	0.1
Tap - Potable	5	2008	5	2001	2001	5			0.1	2039	39	7%	2.75	0.2
Tap - Potable	2	2008	2	2003	2003	2			0.0	2039	37	7%	2.64	0.1
Toilets	2	2008	2	1995	1996	2			0.0	2039	44	3%	1.76	0.0
Water tank	1	2008	1	2001	2001	1			0.0	2039	39	7%	2.75	0.0
2009 Catchment Assets Management	434	2009	434	2009	2009	434			5.6	2039	31	7%	2.31	13.0
<b>Future Catchment Assets</b>														
WRS Catchment Assets	74	2009	74	2010	2010	69			0.9	2039	30	7%	2.26	2.1
WRS Catchment Assets	74	2009	74	2011	2011	65			0.9	2039	29	7%	2.21	1.9

Rous Water Bulk Water Supply Scheme														
<b>Capital Charge Calculation</b>														
Pre 1996 discount rate	3%				Summary									
Post 1996 discount rate	7%				per ET		Total							
Peak day demand (L/ET/d)	2,500				Capital charge		\$9,119		2008/09\$ per ET					
Asset	Capital cost (\$'000) <sup>1</sup>	Year dollars <sup>2</sup>	Capital Cost (\$'000, 2009\$) <sup>3</sup>	Year commiss- ioned	Effective year commiss- ioned	Present value 2009 (\$'000) <sup>4</sup>	Capacity (ML)	Capacity (ETs)	Capital cost (\$/ET)	Year of full take- up	Years to full take- up	Discount Rate	ROI factor	Capital Charge (\$/ET)
WRS Catchment Assets	74	2009	74	2012	2012	60			0.8	2039	28	7%	2.16	1.7
WRS Catchment Assets	105	2009	105	2013	2013	80			1.1	2039	27	7%	2.11	2.2
WRS Catchment Assets	220	2009	220	2014	2014	157			2.1	2039	26	7%	2.05	4.2
WRS Catchment Assets	125	2009	125	2015	2015	83			1.1	2039	25	7%	2.00	2.2
WRS Catchment Assets	125	2009	125	2016	2016	78			1.0	2039	24	7%	1.96	2.0
WRS Catchment Assets	125	2009	125	2017	2017	73			1.0	2039	23	7%	1.91	1.8
WRS Catchment Assets	110	2009	110	2018	2018	60			0.8	2039	22	7%	1.86	1.5
WRS Catchment Assets	110	2009	110	2019	2019	56			0.7	2039	21	7%	1.81	1.3
WRS Catchment Assets	100	2009	100	2020	2020	48			0.6	2039	20	7%	1.76	1.1
WRS Catchment Assets	100	2009	100	2021	2021	44			0.6	2039	19	7%	1.72	1.0
WRS Catchment Assets	100	2009	100	2022	2022	41			0.5	2039	18	7%	1.67	0.9
WRS Catchment Assets	100	2009	100	2023	2023	39			0.5	2039	17	7%	1.63	0.8
WRS Catchment Assets	100	2009	100	2024	2024	36			0.5	2039	16	7%	1.58	0.8
WRS Catchment Assets	100	2009	100	2025	2025	34			0.4	2039	15	7%	1.54	0.7
WRS Catchment Assets	100	2009	100	2026	2026	32			0.4	2039	14	7%	1.50	0.6
WRS Catchment Assets	100	2009	100	2027	2027	30			0.4	2039	13	7%	1.45	0.6
WRS Catchment Assets	100	2009	100	2028	2028	28			0.4	2039	12	7%	1.41	0.5
WRS Catchment Assets	100	2009	100	2029	2029	26			0.3	2039	11	7%	1.37	0.5
WRS Catchment Assets	100	2009	100	2030	2030	24			0.3	2039	10	7%	1.33	0.4
WRS Catchment Assets	100	2009	100	2031	2031	23			0.3	2039	9	7%	1.29	0.4
WRS Catchment Assets	100	2009	100	2032	2032	21			0.3	2039	8	7%	1.25	0.3
WRS Catchment Assets	100	2009	100	2033	2033	20			0.3	2039	7	7%	1.21	0.3
WRS Catchment Assets	100	2009	100	2034	2034	18			0.2	2039	6	7%	1.18	0.3
WRS Catchment Assets	100	2009	100	2035	2035	17			0.2	2039	5	7%	1.14	0.3
WRS Catchment Assets	100	2009	100	2036	2036	16			0.2	2039	4	7%	1.10	0.2
WRS Catchment Assets	100	2009	100	2037	2037	15			0.2	2039	3	7%	1.07	0.2
WRS Catchment Assets	100	2009	100	2038	2038	14			0.2	2039	2	7%	1.03	0.2
WRS Catchment Assets	100	2009	100	2039	2039	13			0.2	2039	1	7%	1.00	0.2
<b>Total Catchment Assets</b>	<b>4,924</b>					<b>3,142</b>		<b>76,000</b>	<b>41</b>					<b>86</b>
Notes														
1. Capital cost from Council's asset registers and MEERA cost for future works														
2. Base year of capital cost varies depending on asset data														
3. Capital cost adjusted to 2009\$ using CPI for Sydney (ABS)														
4. Capital cost of future works discounted to 2009\$														



**Reduction Amount – Rous Water - Water Supply**

The Reduction Amount is calculated for the whole of the Rous Water supply as Rous Water operates a single water supply fund for its bulk supply and retail services.

The calculation uses the weighted average (by growth) capital charge for the bulk supply and retail services to represent the income from all developments (excluding reduction amount). Retail customers are required to contribute the bulk and retail developer charges. Refer to the Development Servicing Plan for Retail Water Supply Services (2009) for calculations relating to the Retail developer charges.

<b>Component</b>	<b>Capital Charge (\$/ET)</b>	<b>Growth (ET)</b>	<b>Weighted Income</b>	<b>Weighted Capital Charge (per ET)</b>
Bulk Supply	\$9,119	21,000	\$191,498,774	
Retail	\$14,113	882	\$12,447,670	
<b>Total</b>		21,882	\$203,946,444	<b>\$9,320</b>

The Reduction Amount calculation also requires input of debt and cash and investments, number of assessments served, renewal works and works to improve standards for the fund. Capital works are the total of the Bulk Supply and Retail Services components. The Reduction Amount calculation and the Retail Services capital works program are attached.

### Rous Water - Water Supply

[illegible][illegible][illegible]

Developer Charge Calculation	
Reduction Amount is therefore	\$1,178

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52	2052/53	2053/54	2054/55	2055/56	2056/57	2057/58	2058/59
76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000
2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52	2052/53	2053/54	2054/55	2055/56	2056/57	2057/58	2058/59
2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824	3,824
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Rous Water

Capital Works Program

Retail

All values are in year 2008/09 \$'000

Area	Project	Type of works			30 year total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
		New System Assets	Renewals	Improved LOS		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	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	
Distribution System																																				
Retail	Coraki 225 (Sheehans to Riverbank Rd)		100%		500							250	250																							
Retail	Newrybar 150mm		100%		2,600														2600																	
Retail	Ewingsdale 200mm replacement		100%		214																214															
Retail	Tintenbar 150		100%		2,300																2300															
Retail	Hyrarna Cres		100%		72																72															
Retail	Baxters Lane Pump Station		100%		28								28																							
Retail	Glenross Drv		100%		163																															
Retail	Newrybar village 100mm		100%		127																															
Retail	Baxters Lane - replace suction & pressure line		100%		27																															
Retail	Sth Gundurima tank - Road Runner caravan park		100%		5				5																											
Retail	Bexhill Village upgrade	100%			1,390								200	500	690																					
Retail	Richmond Hill - replace 80mm with 100mm	40%	60%		177																															
Retail	McLeish Rd		100%		94																	177														
Retail	Eureka Village		100%		50																	94														
Retail	Sth. Gundurimba Village		100%		40																	50														
Retail	Bencluna Rd - Eureka		100%		240																	40														
Retail	Grace Rd & Julianne - Bexhill		100%		280																	240														
Retail	Richmond Hill reticulation replacement		100%		836																													836		
Retail	Bridge and Emily St Wyrallah		100%		96																													96		
Retail	Minor reticulation program			100%	600	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Retail	Ewingsdale mains replacement program		100%		1,450																															
Retail	Pacific Highway Mullumbimby		100%		130																															
Retail	Grays & Prestons Lane replacement		100%		294																															
Retail	Avocado Cres replacement		100%		104																															
Retail	Rural services replacement program		100%		1,050										50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
Retail	Gundurimba 80mm replacement with 100mm	40%	60%		453							453																								
Retail	Newrybar Reservoir - roof replacement		100%		30																															
Retail	Tullera Reservoir - roof replacement		100%		80								80																						294	
Retail	Knockrow Reservoir PS	90%	10%		475		475																												104	
Retail	Tintenbar Reservoir- roof replacement		100%		47																															
Totals					13,952	20	495	20	25	20	50	723	578	520	760	70	70	70	70	2,670	2,442	1,202	70	117	70	70	70	70	800	70	2,132	70	70	468	70	
Other New System Assets (growth works)					2,070		428					181	200	500	690							71														
Renewals					11,283		48		5		30	522	358		50	50	50	50	50	2,650	2,422	1,111	50	97	50	50	50	50	780	50	2,112	50	50	448	50	
Improved LOS					600	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20