



# **Griffith City Council**

## *Development Servicing Plan For Sewerage 2012*

**Adopted by Council on  
27 November 2012**



## Summary

This Development Servicing Plan (DSP) covers sewerage developer charges for the areas served by Griffith City Council (GCC) including Griffith, Bilbul and Yenda.

The sewerage developer charges calculated for the area covered by this DSP and the Council's proposed charges are below:

Sewerage	Developer Charge Calculated 13/14 (\$ per ET)	Developer Charge Proposed by GCC 13/14 (\$ per ET)
Griffith City Council	\$5,165	\$5,165

The charges will be indexed on 1<sup>st</sup> July each year on the basis of movements in the Consumer Price Index (CPI) for Sydney.

This DSP has been prepared in accordance with 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. This document is to be registered with the NSW Office of Water.

The development servicing zone areas covered by this DSP are shown in Appendix A.

The timing and expenditures for works serving the area covered by this DSP are shown in section 4.

Standards of service to be provided by Council are provided in section 5.

Developer charges relating to this DSP will be reviewed as described in section 7.4.

The developer shall be responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions.

The timing of payment of developer charges is described in section 7.8.

The GCC Background Document for Water Supply DSP, in Appendix B, lists all the assets covered by this DSP and provides the detailed developer charges calculation.

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# 1 Introduction

Section 64 of the Local Government Act 1993 enables a local government council to levy developer charges for water supply, sewerage and stormwater. This 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, sewerage and/or stormwater developer charges to be levied on development areas utilising a water utility's water supply, sewerage and/or stormwater infrastructure.

This DSP covers sewerage developer charges in Griffith, Bilbul and Yenda development areas, which are served by Griffith City Council (GCC), as the local water utility.

This DSP has been prepared in accordance with 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. This document is to be registered with the NSW Office of Water. The areas served by GCC have been considered as one service area, as GCC resolved to agglomerate the developer charges across the Griffith Local Government Area.

This DSP supersedes any other requirements related to sewerage developer charges for the area covered by this DSP.



## 2 Administration

Griffith City Sewerage	
<b>DSP Area</b>	The sewerage area covered by this DSP is shown on plans in Appendix A.
<b>DSP Boundaries</b>	The basis for defining the DSP areas boundaries is the existing and future development served by Griffith City Council sewerage schemes. Any development outside the sewerage service area will require a special agreement with Griffith City Council.
<b>Application of Developer Charges</b>	Developer charges will be levied to all land within the DSP area which is serviced, or is proposed to be serviced within one year by reticulated sewerage within 75 metres of the property boundary. (S552 LGA, 1993)
<b>Assessment</b>	Assessment of Developer charges payable will be on the basis of Equivalent Tenements (ETs). Council will determine the number of ETs of each development in accordance with Council's adopted ET Policy.
<b>Payment of Developer Charges</b>	Payment of a developer charge is a precondition to the grant of a Compliance Certificate, which must be obtained in order to complete a development. A Compliance Certificate will not be issued until the developer charge payment has been received. Council may adopt a policy on the implementation and application of developer charges.
<b>Time &amp; Payment</b>	Council will issue a Notice of Payment – Developer Charges at the time of assessing development application or other type of application. If payment is made within three months of the date of the notice, no further charges will apply for the development. If payment is not received within three months, a payment will be required prior to issue of Compliance Certificate and the charge will be recalculated in accordance with the DSP valid at that time.
<b>Review</b>	Developer Charges relating to this DSP will be reviewed after a period of 5 years. A shorter review period is permitted if a major change in circumstances occurs.
<b>Assessment</b>	Developments will be assessed in terms of their ET loadings on the sewerage system. GCC will make the final decision on the assessment.
<b>Indexation</b>	The charges will be adjusted annually on the basis of movements in Consumer Price Index (CPI) for Sydney.

## 3 Demographic and Land Use Planning Information

### 3.1 Growth Projections

The number of assessments and Equivalent Tenements (ETs) projections in the Griffith sewerage scheme are shown in Table 1.

**Table 1: Growth Forecast**

	Assessments		ETs		
	Residential	Non-Residential	Residential	Non-Residential	Total
2010	7999	837	7999	3825	11824
2015	8273	887	8273	4054	12327
2020	8746	958	8746	4380	13126
2025	9346	1058	9346	4837	14183
2030	9971	1183	9971	5408	15379
2035	10646	1333	10646	6093	16739
2040	11346	1508	11346	6893	18239

Note: 1 residential assessment = 1 ET (i.e. a standard urban fully detached dwelling)

1 non-residential assessment = 3.7 ET

(Source: GCC staff, email 18 October 2012)

The population estimated in 2040 is based on Census 2011 and 1% growth per annum.

**Table 2: Population Forecast**

	Census 2006*	Census 2011*	2040
Griffith	16,182	17,616	23,509
Yenda	1,064	1,021	1,363
Bilbul	246	263	351

\* Source: Australian Bureau of Statistics website – Urban centre/locality demographic data.

### 3.2 Land Use Information

This DSP should be read in conjunction with the Griffith Local Environment Plan 2002.



## 4 Sewerage Infrastructure

### 4.1 Schemes Overview

The Griffith wastewater scheme comprises 170 km of reticulation and gravity mains, 60 km of rising mains, 29 pump stations and three wastewater treatment plants with total current capacity of 39,310 EP (future capacity 51,810 EP). The treatment plants are located at Griffith, Yenda and Bilbul. Details of the plants are shown below:

- Griffith STP: MBR Plant, commissioned in 2012

Current capacity: 37,500 EP

Future capacity: 50,000 EP

- Yenda STP: Oxidation Ponds mechanically aerated, built in 1981

Capacity: 34,000EP

- Bilbul STP: Oxidation Pond, built in 1990

Capacity: 310 EP

### 4.2 Assets

The existing and proposed sewerage assets serving the area covered by this DSP are listed in table 1 and 2 of the GCC 2012 DSP Background Document for Sewerage (See Appendix B).

### 4.3 Estimates of Capital Costs

Capital works comprising new works and renewals with an estimated value of \$43.8 M will be required over the next 30 years to provide sewerage services to the serviced areas.

Capital cost of works to upgrade and improve sewerage services is detailed in table 2 of the GCC 2012 Background Document for Sewerage DSP (See Appendix B).

The calculation of capital charges includes capital costs for growth only, with an estimated value of \$14.6 M.

#### 4.4 Timing of Works and Expenditure

The annual capital works expenditure for sewerage is shown graphically in Figure 1.

Timing of works and expenditure are to be reviewed and updated when required.

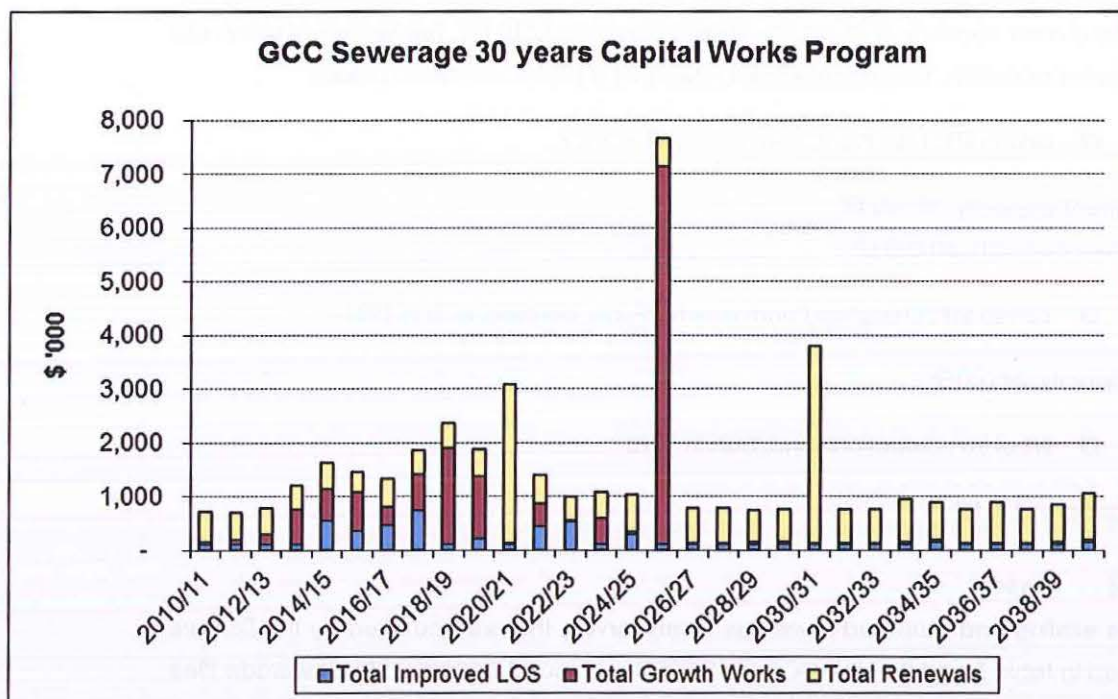


Figure 1: GCC 30 Sewerage Years Capital Works Program



## 5 Standards of Service

The Levels of Service (LOS) applied to GCC's sewerage schemes are the standard targets that GCC aims to achieve. They are not intended as a formal customer contract. GCC system design and operation are based on providing the following standards of service.

**Table 3: Sewerage Levels of Service**

Description	Unit	Levels of Service
<b>Availability of Service</b>		
Extent of areas serviced.	Service area	100% within the defined service area
<b>System Failures</b>		
Category One: Failure due to rainfall and deficient capacity (overflows).	No./ 5 year	0
Category Two: - Failures due to pump or other breakdown including power failure.	No /year	2
Category Three: - Failures due to main blockages and collapses (fat and tree roots).	No /year	150
<b>Response Times for System Failures (Defined as the maximum time to have staff on site to commence rectification)</b>		
<b>Priority One:</b> (Major spill, significant environmental or health impact, or affecting large number of consumers i.e. a major main).		
Response time during working hours	Minutes	30
Response time after hours	Minutes	60

Description	Unit	Levels of Service
<b>Priority Two:</b> (Moderate spill, some environmental or health impact, or affecting small number of consumers i.e. other mains).		
Response time during working hours	Minutes	30
Response time after hours	Minutes	60
<b>Priority Three:</b> (Minor spill, little environmental or health impact, or affecting a couple of consumers).		
Response time during working hours	Hours	1
Response time after hours	Hours	2
<b>Response Times for Complaints (General Complaints and Inquiries)</b>		
Written complaints.	Working days	5
Oral complaints	Working days	1
Note: times for 95% of complaints.		
<b>Odour Complaints</b>		
Treatment works	No./ year	<2
Pumping Stations	No./ year	<4
Effluent Discharge and Sludge Management Failure to meet licence limits and statutory requirements (100 percentile)	No. of samples/year	0

Source: Griffith City Council Strategic Business Plan for Water Supply and Sewerage Services, Dec 2009.



## 6 Design Parameters

Investigation and design of sewerage system components is based on:

- ☐ Council's levels of service (Refer to section 5 above).
- ☐ Manual of Practice: Sewer Design (1984) and the Manual of Practice: Sewage Pumping Station Design (1986). These Manuals were prepared by NSW Public Works and are now managed by the NSW Office of Water.
- ☐ Engineering Guidelines – Subdivisions and Development Standards, December 2008.

## 7 Calculated Developer Charges

### 7.1 Developer Charge Summary

The developer charge for the area covered by this DSP is calculated on the basis of the following capital charge and reduction amount.

	Capital Charge 10/11 (\$ per ET)	Reduction Amount (\$ per ET)	Calculated Developer Charge 13/14 (\$ per ET)	Adopted Developer Charge 11/12 (\$ per ET)
Sewerage	\$6,238	\$1,269	\$5,165	\$5,165

The 2013/14 developer charge was calculated on the basis of 1.3% CPI for Sydney (June quarter 2011 to June 2012).

### 7.2 Capital Charge

The capital charge was calculated using the present value of existing and future assets serving the sewerage customers in the DSP area. The total cost of the assets is divided by the future capacity of the assets converted in ET. Detailed calculation is provided in Appendix B.

### 7.3 Reduction Amount

Council has adopted the NPV of Annual Charges method to calculate the Reduction Amount. This method calculates the reduction amount as the NPV of the future net income from annual charges (income less OMA) for the development area.

The reduction amount was calculated using a Financial Plan prepared using the FINMOD financial planning software and a reduction amount calculator developed by the NSW Office of Water which is based on a 30 year projection. Details of the reduction amount calculation are in Appendix C.

### 7.4 Reviewing/ Updating of Calculated Developer Charges

Developer charges relating to this DSP will be reviewed at no greater than 5-yearly intervals. In the period between any reviews, developer charges will be adjusted annually on the basis of movements in CPI for Sydney. Developer charges will be those charges determined by Council from time to time and will be published in Council's Annual Fees and Charges.



## **7.5 Exclusions**

The developer charges do not cover the costs of reticulation works and assets commissioned pre 1970. The developer shall be responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions, as well as works leading up to that subdivision.

## **7.6 Developments Requiring Forward Funding**

Developments requiring the provision of infrastructure prior to Council's planning phase will require the developer to forward fund infrastructure at their own costs. These developers will be reimbursed within 10 years as Council receive developer charges from other developments reliant on that infrastructure in the area.

## **7.7 Determination of Developer Charges**

Developer charges will be determined at the rate applicable at the time the development application is approved and indexed by CPI at 30 June each year until paid pursuant to Division 5.

Council may adopt a policy on the implementation and application of developer charges.

## **7.8 Timing of Payment of Developer Charges**

Payment of developer charges must be finalised at the following stages:

- ☐ Development consents for subdivisions – the calculation and timing of payment of developer contribution is to be made in accordance with Councils "Contribution Assessment Policy".
- ☐ Development consents involving building work – prior to the issue of the construction certificate
- ☐ Development consents where no construction certificate is required – at the time of issue of the notification of consent, or prior to the commencement of approved development as may be determined by Council

## **7.9 Determining Developer Charges to be paid**

All new and redeveloped properties subject for payment of sewerage charges are liable for paying developer charges.

An Equivalent Tenement (ET) is the basic unit of measure to quantify the loading on sewerage systems. One ET represents the equivalent loading from a standard residential household.

Griffith City Council will assess the additional demand on the sewerage system from new development and redevelopment in ET units. The developer charge will be calculated by multiplying the additional loading in ET by the developer charge per ET.

Credit for existing use is inherent in the calculation of the ET loading, as the developer charges are levied for the additional ET loadings a development will place on the infrastructure. For example, if a single residential lot is subdivided into four residential lots, the development has a credit of one ET from the existing use. The developer charges will be applied for the three additional ETs.

#### **7.10 Developments outside Boundaries of DSP**

After the adoption of DSP, an unforeseen new development may occur outside the boundaries of the DSP (see Appendix A). If the planning authorities approve the development, Griffith City Council as the local water utility may either:

- ☐ Apply the developer charges adopted for the DSP to the new development, or
- ☐ Prepare a new DSP for the new development

Such a development is likely to require the construction of specific assets. Provided that there are no other constraints to the development, Griffith City Council may approve construction of the essential assets ahead of time. In such cases the assets will be sized by Council in accordance with the requirements of the DSP, and the full capital cost would be met by the developer, in addition to the developer charges levied on the development.

If the asset funded by this developer will serve other future development, the developer may be reimbursed when Council collects developer charges from the future development. Council and the developer must enter into an agreement stating how the developer will be reimbursed in the future.

#### **7.11 Cross Subsidy**

Council has determined to charge the calculated developer charge as show in this document, thus cross-subsidy is not required.



## 8 Reference Documents

Background information and calculations relating to this DSP are contained in the following documents:

- ❑ Developer Charges for Water Supply, Sewerage and Stormwater Guidelines, December 2002.
- ❑ GCC 2012 DSP Background Document for Sewerage (These background documents contain detailed calculations for the capital charges and developer charges, including asset commissioning dates, size/length of assets, MEERA valuation of assets, 30 years capital works program, assets current and future capacities).

## 9 Other Related Plans

- ❑ Griffith City Council DSP for Water Supply 2012
- ❑ Section 94 Contribution Plans 2001 (Amendment 2010)
- ❑ Section 94A Development Contributions Plan 2010
- ❑ Griffith Local Environmental Plan 2002

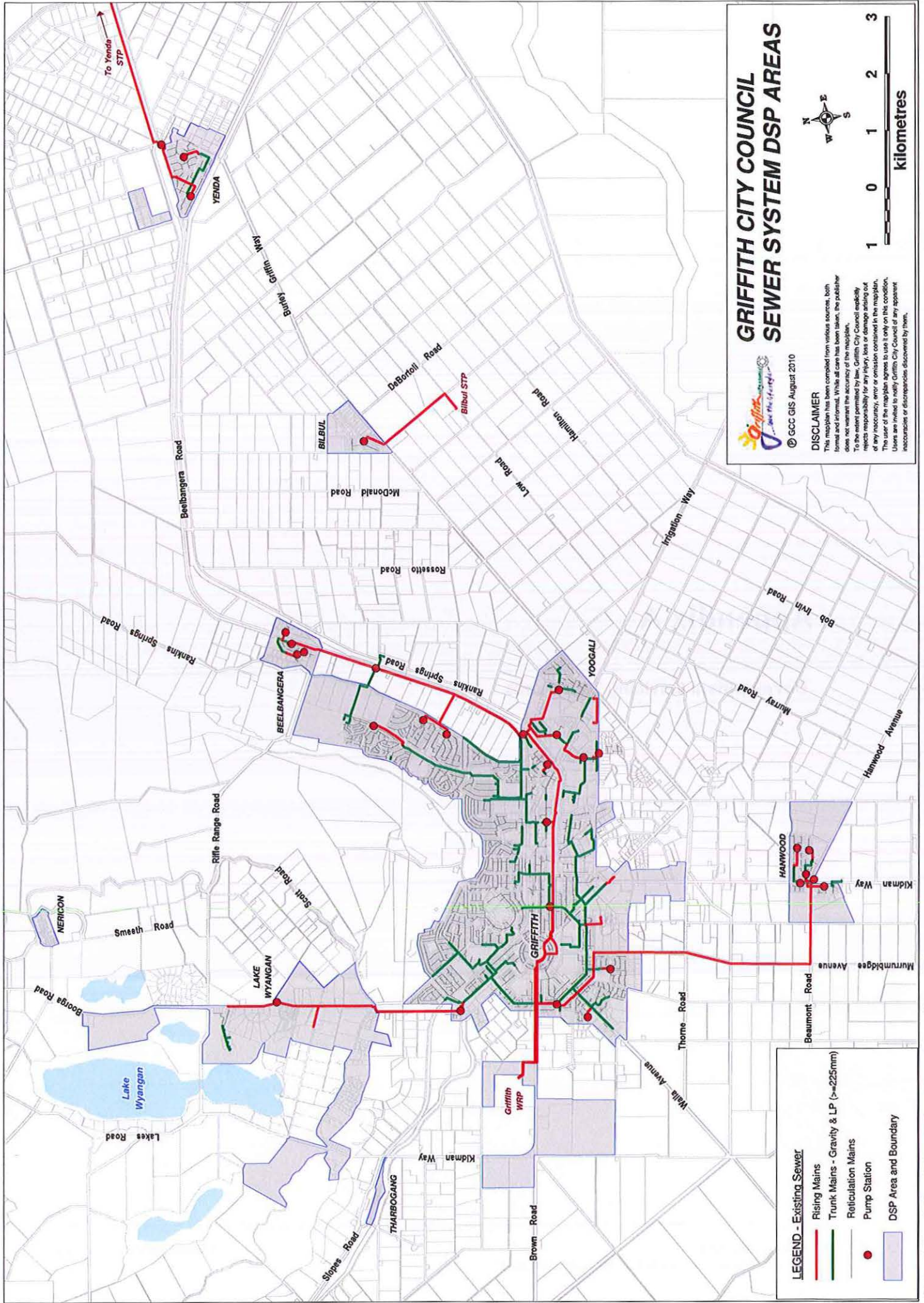
## 10 Glossary

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.
GCC	Griffith City Council
CPI	Consumer Price Index
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development.
DSP	Development Servicing Plan
EP	Equivalent Person
ET	Equivalent Tenement
LEP	Local Environment Plan
MEERA	Modern Equivalent Engineering Replacement Asset
NPV	Net Present Value
OMA	Operation, maintenance and administration (costs)
Post 1996 Asset	An Asset that was commissioned by a water utility on or after 1st January 1996 or that is yet to be commissioned.
Pre-1996 Asset	An Asset that was commissioned by a water utility before 1st January 1996.
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 separate small town or village, or a new development of over 500 lots.

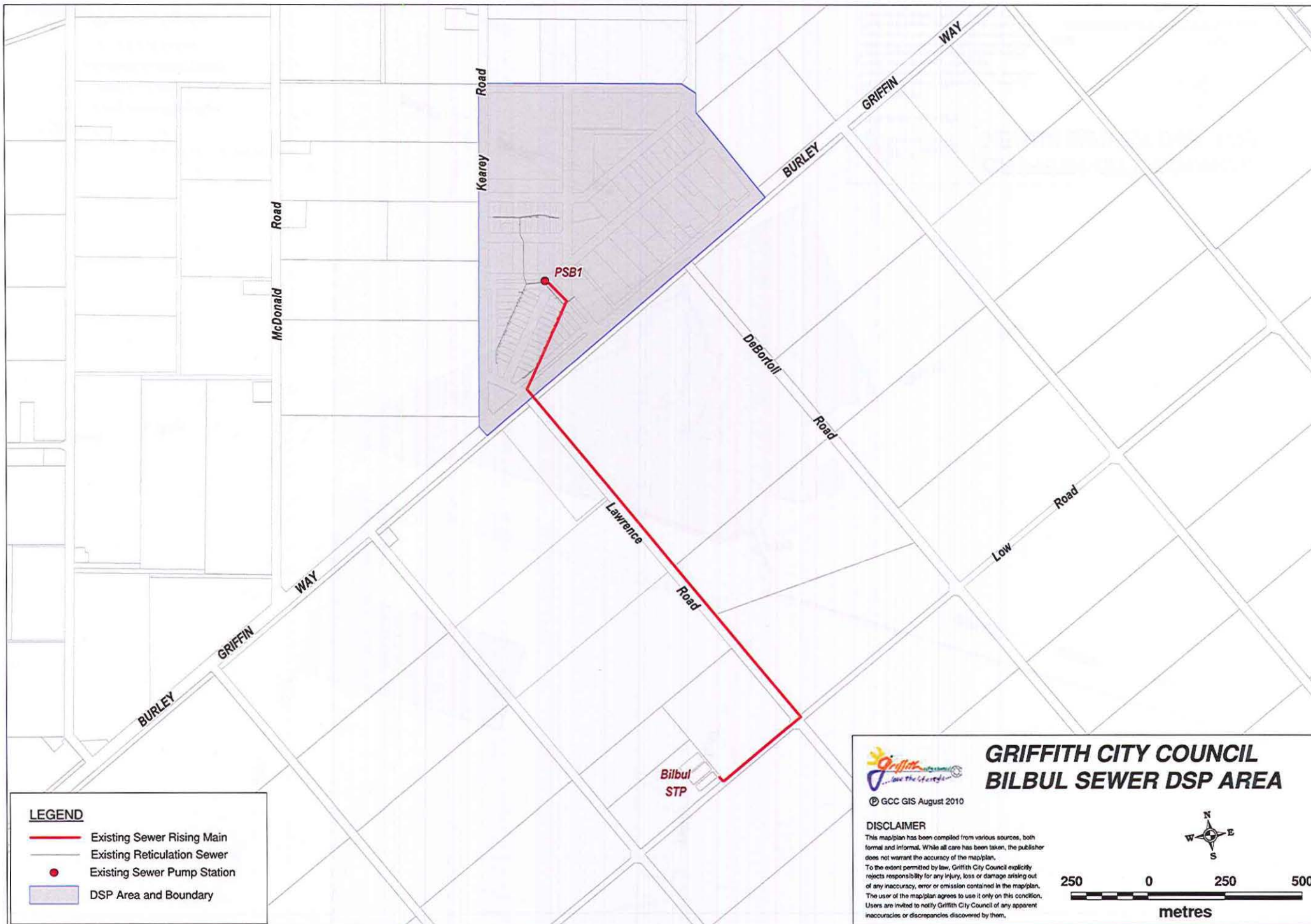


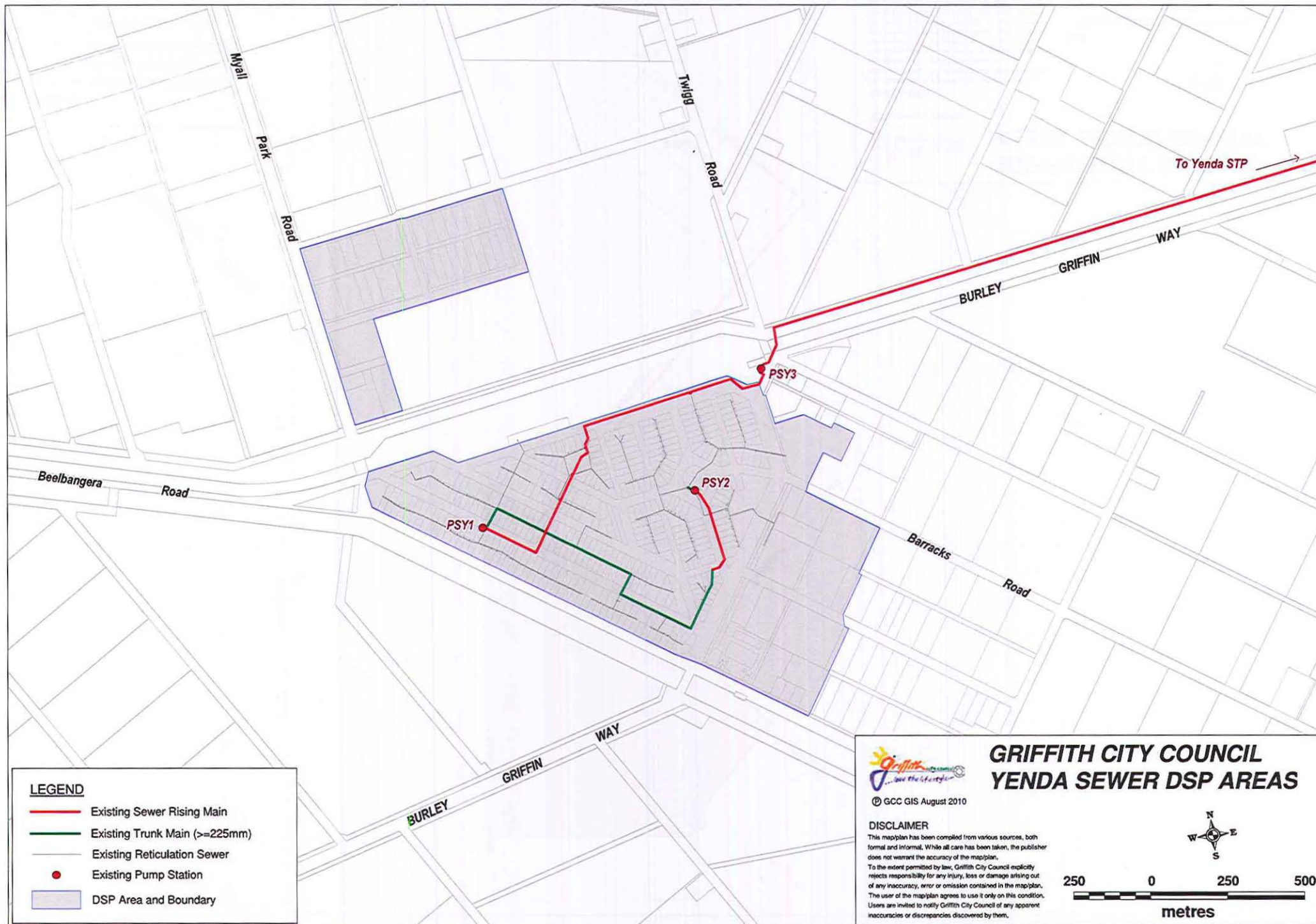
# **Appendix A**

## **Development Servicing Zone Areas**

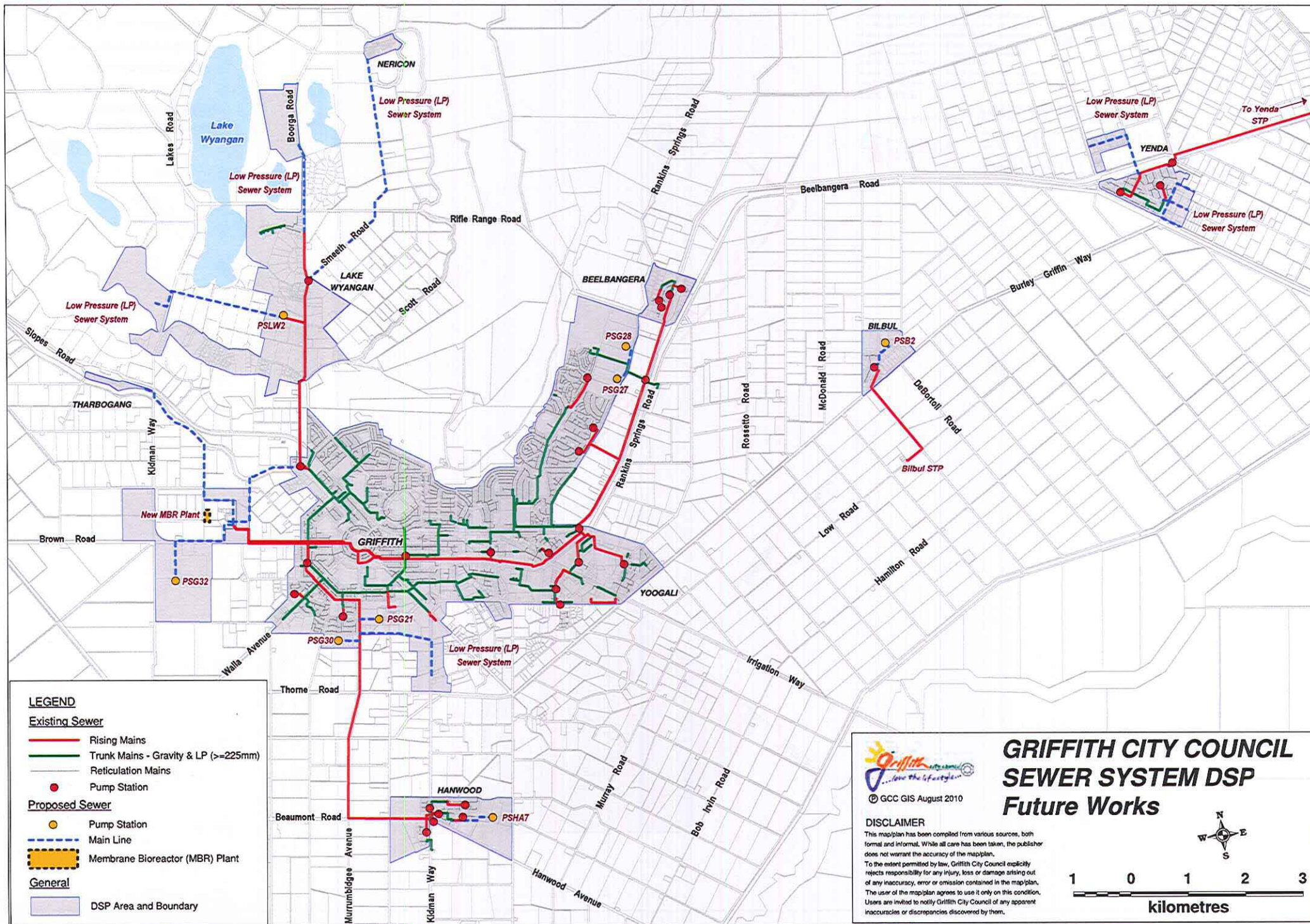




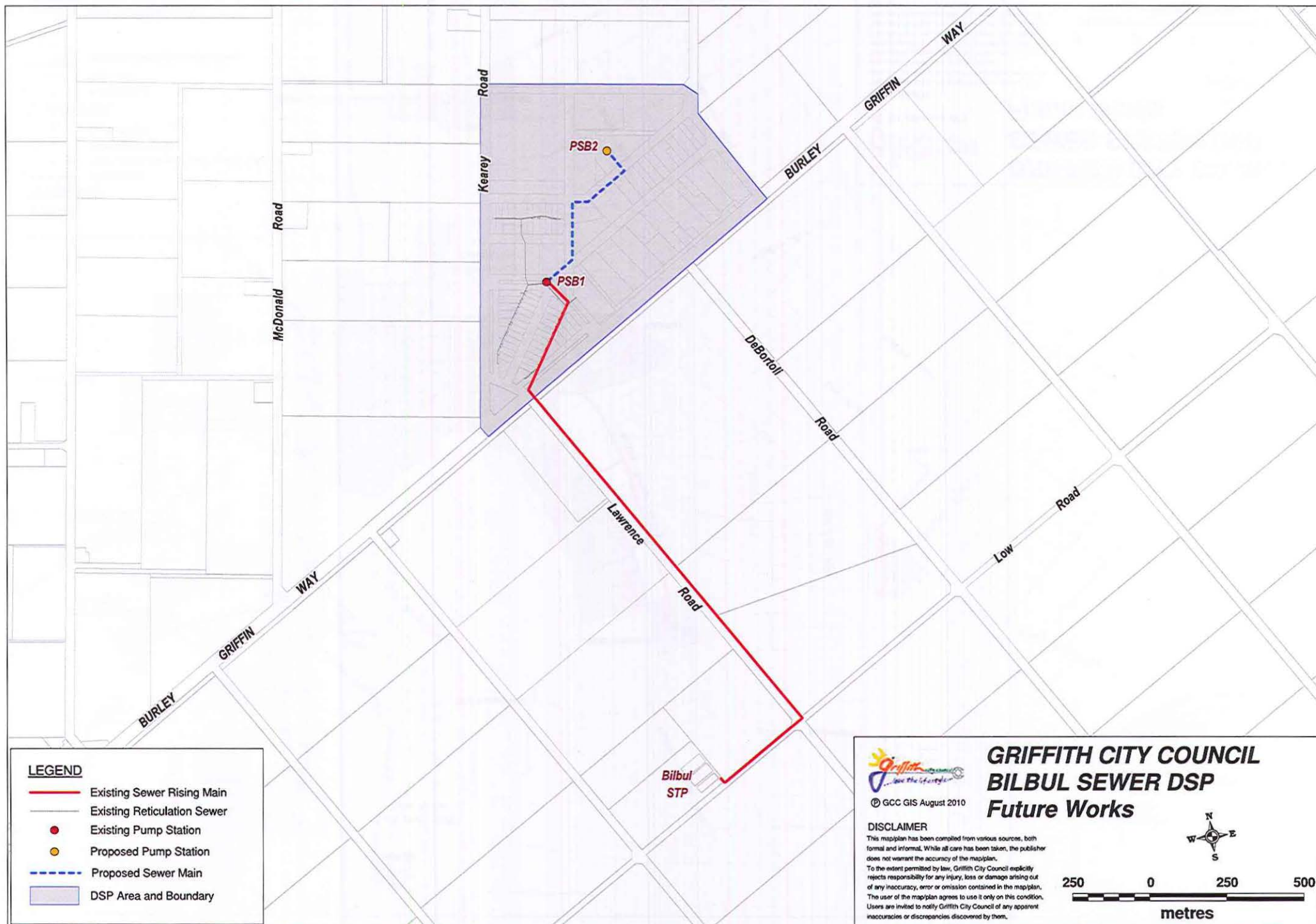




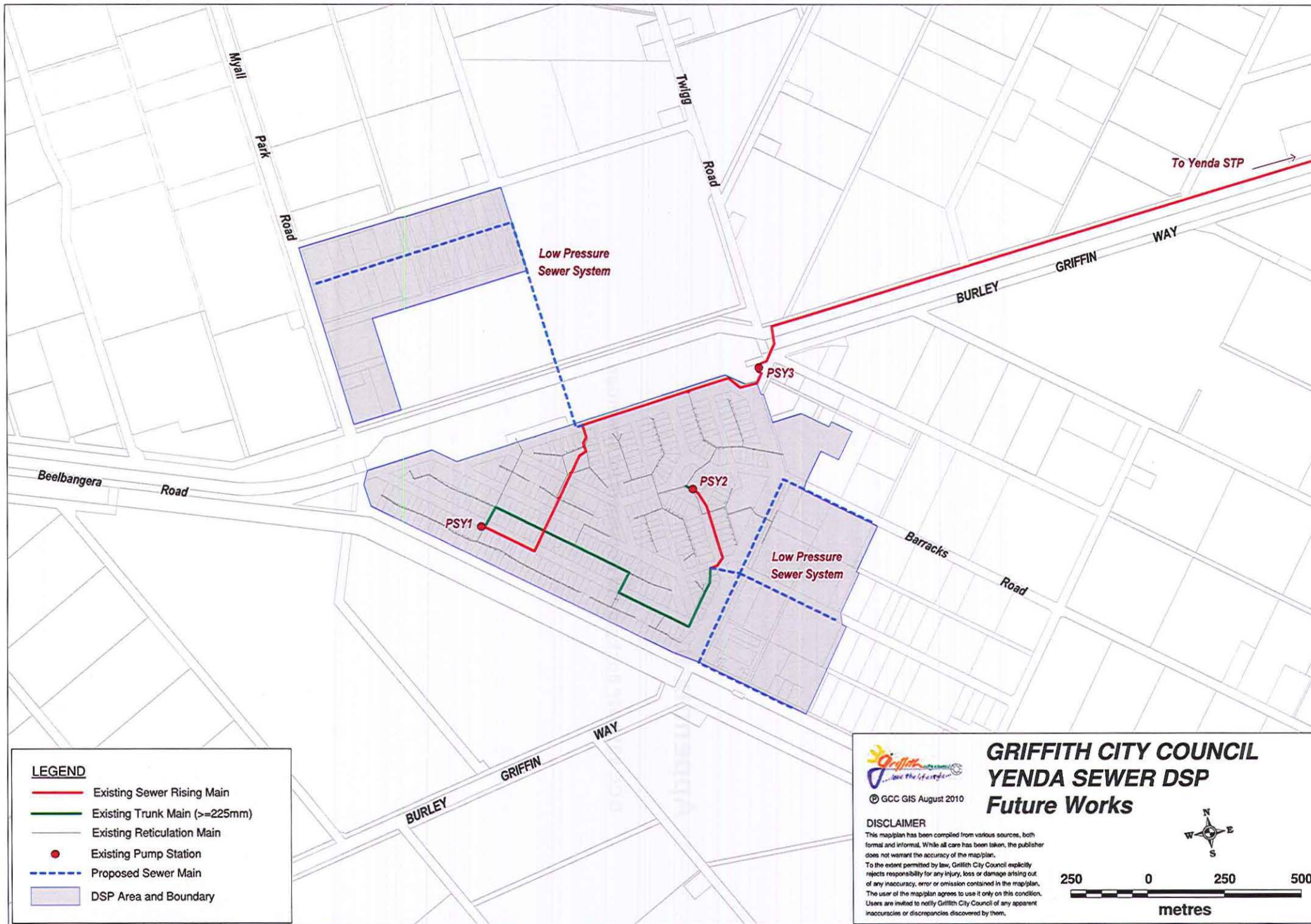












## **Appendix B**

### **GCC 2012 DSP Background Document for Sewerage**





# Griffith City Council

## 2012 DSP Background Document for Sewerage

## Existing Assets

Table 1: GCC Sewerage Existing Sewerage Assets

DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$2,690.66	\$0.00	\$0	\$2,691
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$40,359.95	\$0.00	\$0	\$40,360
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$41,317.40	\$0.00	\$0	\$41,317
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$41,813.30	\$0.00	\$0	\$41,813
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$42,652.91	\$0.00	\$0	\$42,653
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$18,662.79	\$0.00	\$0	\$18,663
Griffith	Trunk Mains (excluding reticulation)	1976	300	mm	\$7,855.95	\$7,855.95	\$7,856	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$16,468.04	\$0.00	\$0	\$16,468
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$27,034.29	\$0.00	\$0	\$27,034
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$26,882.09	\$0.00	\$0	\$26,882
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$29,356.71	\$0.00	\$0	\$29,357
Griffith	Trunk Mains (excluding reticulation)	1999	300	mm	\$13,188.18	\$13,188.18	\$13,188	\$0
Griffith	Trunk Mains (excluding reticulation)	1999	300	mm	\$25,119.40	\$25,119.40	\$25,119	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$42,783.89	\$42,783.89	\$42,784	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$39,087.75	\$39,087.75	\$39,088	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$36,088.93	\$36,088.93	\$36,089	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$39,453.61	\$39,453.61	\$39,454	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$33,158.92	\$33,158.92	\$33,159	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$36,088.93	\$36,088.93	\$36,089	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$36,088.93	\$36,088.93	\$36,089	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$35,463.53	\$35,463.53	\$35,464	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$35,601.12	\$35,601.12	\$35,601	\$0
Griffith	Trunk Mains (excluding reticulation)	1963	300	mm	\$21,318.60	\$0.00	\$0	\$21,319
Griffith	Trunk Mains (excluding reticulation)	1963	300	mm	\$22,472.74	\$0.00	\$0	\$22,473
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$19,359.38	\$19,359.38	\$19,359	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	375	mm	\$20,601.92	\$20,601.92	\$20,602	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	375	mm	\$46,380.70	\$0.00	\$0	\$46,381
Griffith	Trunk Mains (excluding reticulation)	1974	375	mm	\$21,207.37	\$21,207.37	\$21,207	\$0
Griffith	Trunk Mains (excluding reticulation)	1981	375	mm	\$40,209.56	\$40,209.56	\$40,210	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$23,527.70	\$0.00	\$0	\$23,528
Griffith	Trunk Mains (excluding reticulation)	1963	300	mm	\$28,287.57	\$0.00	\$0	\$28,288
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$27,945.74	\$0.00	\$0	\$27,946
Griffith	Trunk Mains (excluding reticulation)	1959	375	mm	\$27,378.51	\$0.00	\$0	\$27,379
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$30,032.39	\$30,032.39	\$30,032	\$0
Griffith	Trunk Mains (excluding reticulation)	1971	300	mm	\$30,028.11	\$30,028.11	\$30,028	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$37,742.26	\$37,742.26	\$37,742	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,312.37	\$32,312.37	\$32,312	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,316.05	\$32,316.05	\$32,316	\$0
Griffith	Trunk Mains (excluding reticulation)	1983	300	mm	\$27,949.42	\$27,949.42	\$27,949	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	300	mm	\$27,949.42	\$27,949.42	\$27,949	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$62,355.83	\$62,355.83	\$62,356	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$63,958.34	\$63,958.34	\$63,958	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$63,958.34	\$63,958.34	\$63,958	\$0





Griffith City Council

## 2012 DSP Background Document for Sewerage

DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$67,447.93	\$67,447.93	\$67,448	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$50,142.26	\$50,142.26	\$50,142	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$61,299.96	\$61,299.96	\$61,300	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$59,390.42	\$59,390.42	\$59,390	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$59,390.42	\$59,390.42	\$59,390	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$59,382.93	\$59,382.93	\$59,383	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$60,356.42	\$60,356.42	\$60,356	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$48,155.89	\$48,155.89	\$48,156	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$37,448.53	\$37,448.53	\$37,449	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	450	mm	\$56,325.86	\$56,325.86	\$56,326	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$20,751.38	\$0.00	\$0	\$20,751
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$21,378.12	\$21,378.12	\$21,378	\$0
Griffith	Trunk Mains (excluding reticulation)	1982	450	mm	\$40,727.41	\$40,727.41	\$40,727	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$27,060.90	\$27,060.90	\$27,061	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	450	mm	\$40,258.02	\$40,258.02	\$40,258	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$52,938.15	\$52,938.15	\$52,938	\$0
Griffith	Trunk Mains (excluding reticulation)	1994	450	mm	\$54,149.01	\$54,149.01	\$54,149	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$51,699.84	\$51,699.84	\$51,700	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$38,217.23	\$38,217.23	\$38,217	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$59,420.37	\$59,420.37	\$59,420	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$61,007.92	\$61,007.92	\$61,008	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$34,059.04	\$0.00	\$0	\$34,059
Griffith	Trunk Mains (excluding reticulation)	1996	300	mm	\$34,338.07	\$34,338.07	\$34,338	\$0
Griffith	Trunk Mains (excluding reticulation)	1982	300	mm	\$30,853.16	\$30,853.16	\$30,853	\$0
Griffith	Trunk Mains (excluding reticulation)	1985	300	mm	\$38,975.34	\$38,975.34	\$38,975	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$24,575.19	\$0.00	\$0	\$24,575
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$29,177.07	\$29,177.07	\$29,177	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$29,188.09	\$29,188.09	\$29,188	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$75,052.49	\$75,052.49	\$75,052	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	375	mm	\$43,084.99	\$43,084.99	\$43,085	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$34,314.93	\$34,314.93	\$34,315	\$0
Griffith	Trunk Mains (excluding reticulation)	1973	450	mm	\$63,516.53	\$63,516.53	\$63,517	\$0
Griffith	Trunk Mains (excluding reticulation)	1973	450	mm	\$50,741.33	\$50,741.33	\$50,741	\$0
Griffith	Trunk Mains (excluding reticulation)	1973	450	mm	\$59,210.70	\$59,210.70	\$59,211	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$56,378.94	\$56,378.94	\$56,379	\$0
Griffith	Trunk Mains (excluding reticulation)	1981	375	mm	\$50,763.27	\$50,763.27	\$50,763	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	375	mm	\$51,518.69	\$0.00	\$0	\$51,519
Griffith	Trunk Mains (excluding reticulation)	1962	375	mm	\$50,346.67	\$0.00	\$0	\$50,347
Griffith	Trunk Mains (excluding reticulation)	1964	375	mm	\$50,679.94	\$0.00	\$0	\$50,680
Griffith	Trunk Mains (excluding reticulation)	1995	375	mm	\$38,881.34	\$38,881.34	\$38,881	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$6,439.19	\$6,439.19	\$6,439	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$50,757.71	\$50,757.71	\$50,758	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$14,861.66	\$0.00	\$0	\$14,862
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$22,309.65	\$0.00	\$0	\$22,310





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DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$19,686.84	\$19,686.84	\$19,687	\$0
Griffith	Trunk Mains (excluding reticulation)	1964	450	mm	\$36,040.38	\$0.00	\$0	\$36,040
Griffith	Trunk Mains (excluding reticulation)	1975	450	mm	\$27,566.60	\$27,566.60	\$27,567	\$0
Griffith	Trunk Mains (excluding reticulation)	1963	300	mm	\$23,809.13	\$0.00	\$0	\$23,809
Griffith	Trunk Mains (excluding reticulation)	1981	300	mm	\$23,809.13	\$23,809.13	\$23,809	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$19,453.19	\$19,453.19	\$19,453	\$0
Griffith	Trunk Mains (excluding reticulation)	1971	300	mm	\$28,143.56	\$28,143.56	\$28,144	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	300	mm	\$30,198.89	\$0.00	\$0	\$30,199
Griffith	Trunk Mains (excluding reticulation)	1982	375	mm	\$31,777.73	\$31,777.73	\$31,778	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	375	mm	\$26,223.49	\$26,223.49	\$26,223	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	375	mm	\$37,682.24	\$37,682.24	\$37,682	\$0
Griffith	Trunk Mains (excluding reticulation)	1994	375	mm	\$17,169.19	\$17,169.19	\$17,169	\$0
Griffith	Trunk Mains (excluding reticulation)	1994	375	mm	\$28,028.39	\$28,028.39	\$28,028	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$50,841.02	\$50,841.02	\$50,841	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	375	mm	\$21,940.57	\$21,940.57	\$21,941	\$0
Griffith	Trunk Mains (excluding reticulation)	1960	375	mm	\$17,508.29	\$0.00	\$0	\$17,508
Griffith	Trunk Mains (excluding reticulation)	1995	375	mm	\$32,160.99	\$32,160.99	\$32,161	\$0
Griffith	Trunk Mains (excluding reticulation)	1982	375	mm	\$39,120.88	\$39,120.88	\$39,121	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$47,584.47	\$47,584.47	\$47,584	\$0
Griffith	Trunk Mains (excluding reticulation)	1961	375	mm	\$81,780.01	\$0.00	\$0	\$81,780
Griffith	Trunk Mains (excluding reticulation)	1980	375	mm	\$48,702.51	\$48,702.51	\$48,703	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	375	mm	\$42,689.86	\$0.00	\$0	\$42,690
Griffith	Trunk Mains (excluding reticulation)	1962	450	mm	\$49,147.48	\$0.00	\$0	\$49,147
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$9,549.65	\$9,549.65	\$9,550	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$36,781.38	\$36,781.38	\$36,781	\$0
Griffith	Trunk Mains (excluding reticulation)	1970	450	mm	\$1,166.05	\$0.00	\$0	\$1,166
Griffith	Trunk Mains (excluding reticulation)	1960	450	mm	\$36,601.99	\$0.00	\$0	\$36,602
Griffith	Trunk Mains (excluding reticulation)	1995	450	mm	\$1,787.94	\$1,787.94	\$1,788	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$23,475.91	\$23,475.91	\$23,476	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	450	mm	\$35,271.69	\$35,271.69	\$35,272	\$0
Griffith	Trunk Mains (excluding reticulation)	1981	450	mm	\$59,958.47	\$59,958.47	\$59,958	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	450	mm	\$31,256.11	\$31,256.11	\$31,256	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	450	mm	\$14,309.51	\$0.00	\$0	\$14,310
Griffith	Trunk Mains (excluding reticulation)	1962	450	mm	\$1,901.55	\$0.00	\$0	\$1,902
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$28,972.44	\$28,972.44	\$28,972	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$36,484.46	\$0.00	\$0	\$36,484
Griffith	Trunk Mains (excluding reticulation)	1996	300	mm	\$40,223.49	\$40,223.49	\$40,223	\$0
Griffith	Trunk Mains (excluding reticulation)	1959	300	mm	\$26,739.82	\$0.00	\$0	\$26,740
Griffith	Trunk Mains (excluding reticulation)	1962	450	mm	\$38,013.15	\$0.00	\$0	\$38,013
Griffith	Trunk Mains (excluding reticulation)	1971	450	mm	\$45,176.33	\$45,176.33	\$45,176	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	450	mm	\$48,836.15	\$48,836.15	\$48,836	\$0
Griffith	Trunk Mains (excluding reticulation)	1982	450	mm	\$58,768.00	\$58,768.00	\$58,768	\$0
Griffith	Trunk Mains (excluding reticulation)	1996	450	mm	\$54,012.96	\$54,012.96	\$54,013	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	450	mm	\$63,332.58	\$0.00	\$0	\$63,333





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DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	1939	450	mm	\$54,361.82	\$0.00	\$0	\$54,362
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$35,136.52	\$35,136.52	\$35,137	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$34,707.24	\$34,707.24	\$34,707	\$0
Griffith	Trunk Mains (excluding reticulation)	1994	300	mm	\$30,624.80	\$30,624.80	\$30,625	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$47,652.49	\$47,652.49	\$47,652	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	375	mm	\$56,372.76	\$56,372.76	\$56,373	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	375	mm	\$43,697.84	\$43,697.84	\$43,698	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	375	mm	\$44,203.31	\$0.00	\$0	\$44,203
Griffith	Trunk Mains (excluding reticulation)	1982	450	mm	\$19,155.30	\$19,155.30	\$19,155	\$0
Griffith	Trunk Mains (excluding reticulation)	1971	300	mm	\$3,239.59	\$3,239.59	\$3,240	\$0
Griffith	Trunk Mains (excluding reticulation)	1995	300	mm	\$17,805.26	\$17,805.26	\$17,805	\$0
Griffith	Trunk Mains (excluding reticulation)	1995	300	mm	\$23,887.31	\$23,887.31	\$23,887	\$0
Griffith	Trunk Mains (excluding reticulation)	1995	300	mm	\$28,840.50	\$28,840.50	\$28,841	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	450	mm	\$17,074.63	\$17,074.63	\$17,075	\$0
Griffith	Trunk Mains (excluding reticulation)	1991	300	mm	\$24,332.60	\$24,332.60	\$24,333	\$0
Griffith	Trunk Mains (excluding reticulation)	1981	300	mm	\$34,183.53	\$34,183.53	\$34,184	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$29,493.18	\$29,493.18	\$29,493	\$0
Griffith	Trunk Mains (excluding reticulation)	1985	300	mm	\$29,382.91	\$29,382.91	\$29,383	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$26,912.89	\$0.00	\$0	\$26,913
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$28,022.93	\$28,022.93	\$28,023	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$34,054.75	\$0.00	\$0	\$34,055
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$34,273.68	\$34,273.68	\$34,274	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	375	mm	\$30,678.47	\$30,678.47	\$30,678	\$0
Griffith	Trunk Mains (excluding reticulation)	1939	375	mm	\$43,070.17	\$0.00	\$0	\$43,070
Griffith	Trunk Mains (excluding reticulation)	1982	375	mm	\$27,172.98	\$27,172.98	\$27,173	\$0
Griffith	Trunk Mains (excluding reticulation)	1995	300	mm	\$25,707.23	\$25,707.23	\$25,707	\$0
Griffith	Trunk Mains (excluding reticulation)	1996	300	mm	\$26,277.01	\$26,277.01	\$26,277	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$47,630.49	\$47,630.49	\$47,630	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$34,441.76	\$34,441.76	\$34,442	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	375	mm	\$35,554.83	\$35,554.83	\$35,555	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	375	mm	\$38,775.32	\$38,775.32	\$38,775	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$32,509.81	\$32,509.81	\$32,510	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$43,705.92	\$43,705.92	\$43,706	\$0
Griffith	Trunk Mains (excluding reticulation)	1981	450	mm	\$45,386.23	\$45,386.23	\$45,386	\$0
Griffith	Trunk Mains (excluding reticulation)	1970	450	mm	\$38,832.43	\$0.00	\$0	\$38,832
Griffith	Trunk Mains (excluding reticulation)	1970	450	mm	\$13,771.34	\$0.00	\$0	\$13,771
Griffith	Trunk Mains (excluding reticulation)	1970	450	mm	\$35,956.17	\$0.00	\$0	\$35,956
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$49,141.50	\$49,141.50	\$49,141	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$37,664.20	\$37,664.20	\$37,664	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	450	mm	\$45,667.28	\$45,667.28	\$45,667	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	450	mm	\$46,946.94	\$0.00	\$0	\$46,947
Griffith	Trunk Mains (excluding reticulation)	1975	450	mm	\$49,888.97	\$49,888.97	\$49,889	\$0
Griffith	Trunk Mains (excluding reticulation)	1994	375	mm	\$50,679.94	\$50,679.94	\$50,680	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	375	mm	\$50,879.91	\$0.00	\$0	\$50,880





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Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$44,549.75	\$44,549.75	\$44,550	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$52,381.29	\$52,381.29	\$52,381	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$52,388.78	\$52,388.78	\$52,389	\$0
Griffith	Trunk Mains (excluding reticulation)	1977	450	mm	\$53,795.27	\$53,795.27	\$53,795	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$51,285.10	\$51,285.10	\$51,285	\$0
Griffith	Trunk Mains (excluding reticulation)	1974	450	mm	\$60,356.42	\$60,356.42	\$60,356	\$0
Griffith	Trunk Mains (excluding reticulation)	1982	450	mm	\$41,208.61	\$41,208.61	\$41,209	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	450	mm	\$49,659.27	\$49,659.27	\$49,659	\$0
Griffith	Trunk Mains (excluding reticulation)	1976	450	mm	\$47,482.43	\$47,482.43	\$47,482	\$0
Griffith	Trunk Mains (excluding reticulation)	1962	300	mm	\$42,502.96	\$0.00	\$0	\$42,503
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$28,305.79	\$28,305.79	\$28,306	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$34,277.97	\$34,277.97	\$34,278	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	450	mm	\$53,876.91	\$53,876.91	\$53,877	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$17,356.28	\$17,356.28	\$17,356	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$5,517.10	\$5,517.10	\$5,517	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$12,339.06	\$12,339.06	\$12,339	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$28,809.51	\$28,809.51	\$28,810	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$7,582.80	\$7,582.80	\$7,583	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$11,777.69	\$11,777.69	\$11,778	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$16,097.98	\$16,097.98	\$16,098	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$33,348.90	\$33,348.90	\$33,349	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,937.23	\$32,937.23	\$32,937	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$43,931.14	\$43,931.14	\$43,931	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$43,931.14	\$43,931.14	\$43,931	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$43,925.58	\$43,925.58	\$43,926	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$22,575.66	\$22,575.66	\$22,576	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$36,238.66	\$36,238.66	\$36,239	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$29,242.16	\$29,242.16	\$29,242	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$16,169.82	\$16,169.82	\$16,170	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$18,899.71	\$18,899.71	\$18,900	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$28,656.02	\$28,656.02	\$28,656	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$7,639.31	\$7,639.31	\$7,639	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$5,922.58	\$5,922.58	\$5,923	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$2,861.22	\$2,861.22	\$2,861	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$8,596.18	\$8,596.18	\$8,596	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$5,738.08	\$5,738.08	\$5,738	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$27,230.09	\$27,230.09	\$27,230	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$8,980.80	\$8,980.80	\$8,981	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$12,820.78	\$12,820.78	\$12,821	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$28,534.06	\$28,534.06	\$28,534	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$22,292.53	\$22,292.53	\$22,293	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$19,897.23	\$19,897.23	\$19,897	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$17,161.08	\$17,161.08	\$17,161	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$20,284.98	\$20,284.98	\$20,285	\$0





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DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$10,184.71	\$10,184.71	\$10,185	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$4,052.61	\$4,052.61	\$4,053	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$19,672.08	\$19,672.08	\$19,672	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$6,579.25	\$6,579.25	\$6,579	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$18,708.00	\$18,708.00	\$18,708	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,837.92	\$24,837.92	\$24,838	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$11,266.65	\$11,266.65	\$11,267	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$21,820.28	\$21,820.28	\$21,820	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$15,660.11	\$15,660.11	\$15,660	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,828.54	\$24,828.54	\$24,829	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$25,100.59	\$25,100.59	\$25,101	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,844.17	\$24,844.17	\$24,844	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$12,317.34	\$12,317.34	\$12,317	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$28,993.73	\$28,993.73	\$28,994	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$934.98	\$934.98	\$935	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$42,820.22	\$42,820.22	\$42,820	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$33,622.05	\$33,622.05	\$33,622	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$33,622.05	\$33,622.05	\$33,622	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$13,191.76	\$13,191.76	\$13,192	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$11,220.10	\$11,220.10	\$11,220	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$38,502.67	\$38,502.67	\$38,503	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$43,931.14	\$43,931.14	\$43,931	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$35,274.64	\$35,274.64	\$35,275	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$33,930.85	\$33,930.85	\$33,931	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$26,159.39	\$26,159.39	\$26,159	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$17,935.30	\$17,935.30	\$17,935	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$17,767.88	\$17,767.88	\$17,768	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$39,369.22	\$39,369.22	\$39,369	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$53,157.68	\$53,157.68	\$53,158	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$51,371.87	\$51,371.87	\$51,372	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$29,199.13	\$29,199.13	\$29,199	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$38,527.01	\$38,527.01	\$38,527	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$26,418.24	\$26,418.24	\$26,418	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	375	mm	\$38,507.54	\$38,507.54	\$38,508	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,926.20	\$32,926.20	\$32,926	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,933.56	\$32,933.56	\$32,934	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$22,770.47	\$22,770.47	\$22,770	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$19,293.33	\$19,293.33	\$19,293	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$29,371.88	\$29,371.88	\$29,372	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$26,056.47	\$26,056.47	\$26,056	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,248.07	\$24,248.07	\$24,248	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$30,503.97	\$30,503.97	\$30,504	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$30,687.76	\$30,687.76	\$30,688	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$31,239.10	\$31,239.10	\$31,239	\$0





Griffith City Council

## 2012 DSP Background Document for Sewerage

DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Trunk Mains (excluding reticulation)	1990	300	mm	\$20,054.18	\$20,054.18	\$20,054	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$12,307.95	\$12,307.95	\$12,308	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,837.92	\$24,837.92	\$24,838	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,997.40	\$24,997.40	\$24,997	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$25,041.17	\$25,041.17	\$25,041	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$24,794.15	\$24,794.15	\$24,794	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$32,837.99	\$32,837.99	\$32,838	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$6,876.32	\$6,876.32	\$6,876	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$33,951.71	\$33,951.71	\$33,952	\$0
Griffith	Trunk Mains (excluding reticulation)	1975	300	mm	\$29,066.80	\$29,066.80	\$29,067	\$0
Griffith	Trunk Mains (excluding reticulation)	1990	375	mm	\$2,986.30	\$2,986.30	\$2,986	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	600	mm	\$12,223.21	\$12,223.21	\$12,223	\$0
Griffith	Trunk Mains (excluding reticulation)	2000	450	mm	\$1,372.87	\$1,372.87	\$1,373	\$0
Griffith	Trunk Mains (excluding reticulation)	2002	300	mm	\$50.03	\$50.03	\$50	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$3,637.50	\$3,637.50	\$3,638	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$37,310.87	\$37,310.87	\$37,311	\$0
Griffith	Trunk Mains (excluding reticulation)	1980	300	mm	\$31,900.08	\$31,900.08	\$31,900	\$0
Griffith	Trunk Mains (excluding reticulation)	1971	300	mm	\$19,506.46	\$19,506.46	\$19,506	\$0
Griffith	Sewer Rising Mains	1991	300	mm	\$1,819.93	\$1,819.93	\$1,820	\$0
Griffith	Sewer Rising Mains	1980	600	mm	\$28,090.98	\$28,090.98	\$28,091	\$0
Griffith	Sewer Rising Mains	1980	600	mm	\$1,434,956.48	\$1,434,956.48	\$1,434,956	\$0
Griffith	Sewer Rising Mains	1958	200	mm	\$22,969.46	\$0.00	\$0	\$22,969
Griffith	Sewer Rising Mains	1991	300	mm	\$605,175.30	\$605,175.30	\$605,175	\$0
Griffith	Sewer Rising Mains	1980	500	mm	\$156,114.22	\$156,114.22	\$156,114	\$0
Griffith	Sewer Rising Mains	1980	300	mm	\$1,128.07	\$1,128.07	\$1,128	\$0
Griffith	Sewer Rising Mains	1958	200	mm	\$128,363.34	\$0.00	\$0	\$128,363
Griffith	Sewer Rising Mains	1980	500	mm	\$641,995.53	\$641,995.53	\$641,996	\$0
Griffith	Sewer Rising Mains	1970	450	mm	\$1,165,314.45	\$0.00	\$0	\$1,165,314
Griffith	Sewer Rising Mains	1975	150	mm	\$23,832.83	\$23,832.83	\$23,833	\$0
Griffith	Sewer Rising Mains	2002	225	mm	\$35,415.93	\$35,415.93	\$35,416	\$0
Griffith	Sewer Rising Mains	1970	300	mm	\$12,359.99	\$0.00	\$0	\$12,360
Griffith	Sewer Rising Mains	1958	200	mm	\$131,565.10	\$0.00	\$0	\$131,565
Griffith	Sewer Rising Mains	1970	300	mm	\$12,823.46	\$0.00	\$0	\$12,823
Griffith	Sewer Rising Mains	1970	300	mm	\$279.25	\$0.00	\$0	\$279
Griffith	Sewer Rising Mains	1970	300	mm	\$335,373.65	\$0.00	\$0	\$335,374
Griffith	Sewer Rising Mains	1970	300	mm	\$336,188.79	\$0.00	\$0	\$336,189
Griffith	Sewer Rising Mains	1980	600	mm	\$482,017.14	\$482,017.14	\$482,017	\$0
Griffith	Sewer Rising Mains	1991	600	mm	\$1,787,097.54	\$1,787,097.54	\$1,787,098	\$0
Griffith	Sewer Rising Mains	2007	450	mm	\$38,745.75	\$38,745.75	\$38,746	\$0
Griffith	Sewer Rising Mains	1975	200	mm	\$96,547.78	\$96,547.78	\$96,548	\$0
Griffith	Sewer Rising Mains	1975	195	mm	\$48,090.28	\$48,090.28	\$48,090	\$0
Griffith	Sewer Rising Mains	1975	300	mm	\$489,121.10	\$489,121.10	\$489,121	\$0
Griffith	Sewer Rising Mains	2005	180	mm	\$49,911.08	\$49,911.08	\$49,911	\$0
Griffith	Sewer Rising Mains	2005	160	mm	\$27,532.31	\$27,532.31	\$27,532	\$0





Griffith City Council

## 2012 DSP Background Document for Sewerage

DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Sewer Rising Mains	2002	100	mm	\$56,511.29	\$56,511.29	\$56,511	\$0
Griffith	Sewer Rising Mains	2008	180	mm	\$31,643.25	\$31,643.25	\$31,643	\$0
Griffith	Sewer Rising Mains	1990	150	mm	\$4,715.22	\$4,715.22	\$4,715	\$0
Griffith	Sewer Rising Mains	1995	100	mm	\$82,841.78	\$82,841.78	\$82,842	\$0
Griffith	Sewer Rising Mains	1981	195	mm	\$186,997.58	\$186,997.58	\$186,998	\$0
Griffith	Sewer Rising Mains	1999	150	mm	\$81,579.01	\$81,579.01	\$81,579	\$0
Griffith	Sewer Rising Mains	1977	150	mm	\$12,644.68	\$12,644.68	\$12,645	\$0
Griffith	Sewer Rising Mains	1991	100	mm	\$48,457.84	\$48,457.84	\$48,458	\$0
Griffith	Sewer Rising Mains	1991	50	mm	\$23,504.24	\$23,504.24	\$23,504	\$0
Griffith	Sewer Rising Mains	1991	150	mm	\$746,857.46	\$746,857.46	\$746,857	\$0
Griffith	Sewer Rising Mains	2008	180	mm	\$168,098.99	\$168,098.99	\$168,099	\$0
Griffith	Sewer Rising Mains	1991	50	mm	\$39,003.88	\$39,003.88	\$39,004	\$0
Griffith	Sewer Rising Mains	1991	50	mm	\$16,538.71	\$16,538.71	\$16,539	\$0
Griffith	Sewer Rising Mains	1995	100	mm	\$93,034.33	\$93,034.33	\$93,034	\$0
Griffith	Sewer Rising Mains	1998	100	mm	\$18,967.85	\$18,967.85	\$18,968	\$0
Griffith	Sewer Rising Mains	1958	200	mm	\$1,188.39	\$0.00	\$0	\$1,188
Griffith	Sewer Rising Mains	1991	225	mm	\$797,161.22	\$797,161.22	\$797,161	\$0
Griffith	Sewer Rising Mains	1991	100	mm	\$28,413.37	\$28,413.37	\$28,413	\$0
Griffith	Sewer Rising Mains	1975	80	mm	\$25,132.60	\$25,132.60	\$25,133	\$0
Griffith	Sewer Rising Mains	2008	300	mm	\$799,269.43	\$799,269.43	\$799,269	\$0
Griffith	Sewer Rising Mains	2008	250	mm	\$271.01	\$271.01	\$271	\$0
Griffith	Sewer Rising Mains	2008	250	mm	\$97,169.54	\$97,169.54	\$97,170	\$0
Griffith	Sewer Rising Mains	2008	250	mm	\$666,003.14	\$666,003.14	\$666,003	\$0
Griffith	Sewer Rising Mains	2008	300	mm	\$227,446.92	\$227,446.92	\$227,447	\$0
Griffith	Sewer Rising Mains	1991	225	mm	\$634,907.04	\$634,907.04	\$634,907	\$0
Griffith	Sewer Rising Mains	1981	200	mm	\$1,102.95	\$1,102.95	\$1,103	\$0
Griffith	Sewer Rising Mains	2005	180	mm	\$116,181.41	\$116,181.41	\$116,181	\$0
Griffith	Sewer Rising Mains	2008	90	mm	\$114,073.69	\$114,073.69	\$114,074	\$0
Griffith	Sewer Rising Mains	2005	180	mm	\$72,908.12	\$72,908.12	\$72,908	\$0
Griffith	Sewer Rising Mains	1970	300	mm	\$7,971.49	\$0.00	\$0	\$7,971
Griffith	Sewer Rising Mains	2007	225	mm	\$35,415.93	\$35,415.93	\$35,416	\$0
Griffith	Sewer Rising Mains	1970	300	mm	\$20,795.18	\$0.00	\$0	\$20,795
Griffith	Sewer Rising Mains	1970	300	mm	\$14,672.60	\$0.00	\$0	\$14,673
Griffith	Sewer Rising Mains	1980	600	mm	\$11,852.88	\$11,852.88	\$11,853	\$0
Griffith	Sewer Rising Mains	1980	300	mm	\$2,218.26	\$2,218.26	\$2,218	\$0
Griffith	Sewer Rising Mains	1980	300	mm	\$1,480.93	\$1,480.93	\$1,481	\$0
Griffith	Sewer Rising Mains	1958	200	mm	\$129,592.44	\$0.00	\$0	\$129,592
Griffith	Sewer Rising Mains	1980	300	mm	\$2,707.72	\$2,707.72	\$2,708	\$0
Griffith	Sewer Rising Mains	1970	300	mm	\$1,606.44	\$0.00	\$0	\$1,606
Griffith	Sewer Rising Mains	1958	300	mm	\$771.84	\$0.00	\$0	\$772
Griffith	Sewer Rising Mains	1970	300	mm	\$1,666.05	\$0.00	\$0	\$1,666
Griffith	Sewer Rising Mains	1958	300	mm	\$1,060.50	\$0.00	\$0	\$1,060
Griffith	Sewer Rising Mains	1970	300	mm	\$2,127.27	\$0.00	\$0	\$2,127
Griffith	Sewer Rising Mains	2008	110	mm	\$17,984.38	\$17,984.38	\$17,984	\$0





Griffith City Council

# 2012 DSP Background Document for Sewerage

## Existing Assets

DSP Area Served	AssetType	ConstructionDate / Year of Commissioning	Size	SizeUnits	CurrentReplacem entCost 2010 \$	Assets excluding pre 1970	Griffith	assets excluded
Griffith	Sewer Rising Mains	2008	110	mm	\$114.89	\$114.89	\$115	\$0
Griffith	Sewer Rising Mains	1991	225	mm	\$656,919.89	\$656,919.89	\$656,920	\$0
Griffith	Sewer Rising Mains	2000	225	mm	\$19,781.69	\$19,781.69	\$19,782	\$0
Griffith	Sewer Rising Mains	1958	200	mm	\$23,539.52	\$0.00	\$0	\$23,540
Griffith	Sewer Rising Mains	1980	600	mm	\$670,307.32	\$670,307.32	\$670,307	\$0
Griffith	Sewer Rising Mains	1981	200	mm	\$248,489.47	\$248,489.47	\$248,489	\$0
Griffith	Sewer Rising Mains	1981	195	mm	\$640,917.04	\$640,917.04	\$640,917	\$0
Griffith	Sewer Rising Mains	1981	100	mm	\$41,533.13	\$41,533.13	\$41,533	\$0
Griffith	Sewer Rising Mains	1991	150	mm	\$355,394.05	\$355,394.05	\$355,394	\$0
Griffith	Sewage Treatment Plant	2010	37500	EP	\$33,479,000.00	\$33,479,000.00	\$33,479,000	\$0
Griffith	Sewage Treatment Plant	1983	1500	EP	\$3,613,375.00	\$3,613,375.00	\$3,613,375	\$0
Griffith	Sewage Treatment Plant	1991	310	EP	\$1,003,305.00	\$1,003,305.00	\$1,003,305	\$0
Griffith	Sewage Pumping Stations	1938	39200	EP	\$922,281.00	\$0.00	\$0	\$922,281
Griffith	Sewage Pumping Stations	1958	39200	EP	\$946,018.50	\$0.00	\$0	\$946,019
Griffith	Sewage Pumping Stations	1961	39200	EP	\$736,601.00	\$0.00	\$0	\$736,601
Griffith	Sewage Pumping Stations	1977	39200	EP	\$1,885,496.00	\$1,885,496.00	\$1,885,496	\$0
Griffith	Sewage Pumping Stations	1981	39200	EP	\$234,210.00	\$234,210.00	\$234,210	\$0
Griffith	Sewage Pumping Stations	1984	39200	EP	\$168,272.50	\$168,272.50	\$168,273	\$0
Griffith	Sewage Pumping Stations	1977	39200	EP	\$100,647.00	\$100,647.00	\$100,647	\$0
Griffith	Sewage Pumping Stations	1994	39200	EP	\$112,674.00	\$112,674.00	\$112,674	\$0
Griffith	Sewage Pumping Stations	1994	39200	EP	\$174,075.00	\$174,075.00	\$174,075	\$0
Griffith	Sewage Pumping Stations	1998	39200	EP	\$184,625.00	\$184,625.00	\$184,625	\$0
Griffith	Sewage Pumping Stations	1998	39200	EP	\$225,137.00	\$225,137.00	\$225,137	\$0
Griffith	Sewage Pumping Stations	2000	39200	EP	\$174,919.00	\$174,919.00	\$174,919	\$0
Griffith	Sewage Pumping Stations	2004	39200	EP	\$183,359.00	\$183,359.00	\$183,359	\$0
Griffith	Sewage Pumping Stations	2004	39200	EP	\$155,929.00	\$155,929.00	\$155,929	\$0
Griffith	Sewage Pumping Stations	2008	39200	EP	\$125,334.00	\$125,334.00	\$125,334	\$0
Griffith	Sewage Pumping Stations	2010	39200	EP	\$133,352.00	\$133,352.00	\$133,352	\$0
Griffith	Sewage Pumping Stations	2010	39200	EP	\$743,775.00	\$743,775.00	\$743,775	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$229,779.00	\$229,779.00	\$229,779	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$104,023.00	\$104,023.00	\$104,023	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$125,123.00	\$125,123.00	\$125,123	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$111,619.00	\$111,619.00	\$111,619	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$226,614.00	\$226,614.00	\$226,614	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$91,785.00	\$91,785.00	\$91,785	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$99,170.00	\$99,170.00	\$99,170	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$89,675.00	\$89,675.00	\$89,675	\$0
Griffith	Sewage Pumping Stations	1991	39200	EP	\$96,005.00	\$96,005.00	\$96,005	\$0
Griffith	Sewage Pumping Stations	1983	2530	EP	\$151,709.00	\$151,709.00	\$151,709	\$0
Griffith	Sewage Pumping Stations	1983	2530	EP	\$118,582.00	\$118,582.00	\$118,582	\$0
Griffith	Sewage Pumping Stations	2000	2530	EP	\$149,599.00	\$149,599.00	\$149,599	\$0
Griffith	Sewage Pumping Stations	1991	414	EP	\$127,655.00	\$127,655.00	\$127,655	\$0
					\$ 72,328,500	\$ 65,688,502	\$ 65,688,502	\$ 6,639,997



Table 2: GCC Sewerage 30 years Capital Works Program

Project	Improved LOS	Growth	Renewals	Project Total	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
<b>Griffith</b>															
Griffith WRP Construction - Stage 1 - this is in the existing assets	0%	100%	0%	0	0	0									
Griffith WRP - Landscaping/ Weather	0%	100%	0%	45,000		35,000	10,000								
Griffith WRP Construction - Stage 2	0%	100%	0%	7,000,000											
Griffith WRP Membrane Replacement	0%	0%	100%	5,500,000											2,500,000
Replacement of GWRP Elec /Mech Equipment	0%	0%	100%	1,090,000					50,000		50,000		50,000		
GWRP Effluent Reuse Project	0%	100%	0%	850,000			100,000	250,000	250,000	250,000					
Biosolids Strategy	0%	100%	0%	40,000			40,000								
Griffith WRP - Various	50%	0%	50%	260,000					10,000	10,000	10,000	10,000	10,000	10,000	10,000
Upgrade of Pump Stations (civil & electrical)	20%	0%	80%	1,740,000		30,000	200,000	30,000	30,000	30,000	30,000	30,000	100,000	100,000	30,000
Pump Station G21 (E of Murrumb Av)	0%	100%	0%	430,000						430,000					
Pump Station G27 ( Farm 9 Collina)	0%	100%	0%	387,000				387,000							
Pump Station G28 ( Farm 12 Collina)	0%	100%	0%	446,000					0						
Pump Station G30 (Gronn Rd area)	0%	100%	0%	374,000										374,000	
Pump Station G32 ( S of GWRP)	0%	100%	0%	1,112,000				0				500,000	612,000		
Lakes Rd - Betts Land	0%	100%	0%	300,000		0								300,000	
Kidman Way Hwy Corridor (South)	0%	100%	0%	315,000					315,000						
<b>Bilbul</b>															
Pump Station PSB2 (Bilbul)	0%	100%	0%	384,000											
<b>Yenda</b>															
Upgrade of Yenda S.T.P equipment (Yenda)	0%	0%	100%	90,000										30,000	
Golf Course Rd Area Sewer (Yenda)	0%	100%	0%	143,000								143,000			
Curan Rd Area Sewer (Yenda)	0%	100%	0%	300,000							300,000				
<b>Lake Wyangan &amp; Nericon</b>															
Sewering Lake Wyangan Village	100%	0%	0%	680,000		0			400,000	280,000					
Sewering Nericon Village	100%	0%	0%	977,000							350,000	627,000			
Rising Main (G7 To GWRP)	0%	100%	0%	850,000									850,000		
Pump Station ( LW2 Druitt Rd )	0%	100%	0%	450,000										450,000	
<b>Tharboqang</b>															
Sewerage for Tharboqang village	100%	0%	0%	761,000											
<b>Hanwood</b>															
Pump Station HA7	0%	100%	0%	300,000									300,000		
<b>Mains Renewals</b>															
Sewers Retic Renewals	0%	0%	100%	11,574,000	324,000	350,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
<b>Miscellaneous</b>															
Sundry Tools	40%	10%	50%	300,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Upgrade of SCADA & Telemetry Systems	100%	0%	0%	700,000	10,000	10,000	10,000	10,000	50,000	10,000	10,000	10,000	10,000	100,000	10,000
Plant & Equipment	20%	0%	80%	3,097,000	290,000	151,000	13,000	113,000	102,000	34,000	162,000	119,000	13,000	100,000	100,000
Salaries Capitalised	25%	50%	25%	1,824,000	74,000	70,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Capital - various	90%	0%	10%	1,469,000	19,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
				43,788,000	727,000	706,000	793,000	1,210,000	1,627,000	1,464,000	1,332,000	1,859,000	2,365,000	1,884,000	3,070,000
<b>\$'000</b>															
Total Improved LOS	\$	6,114	108	113	117	103	545	372	467	736	102	209	105		
Total Growth Works	\$	14,668	38	71	181	668	596	711	331	674	1,793	1,155	31		
Total Renewals	\$	23,007	581	522	495	439	486	381	534	449	470	520	2,934		





## 30 Years Capital Works Program

1/11/2012



Griffith City Council

## 2012 DSP Background Document for Sewerage

Table 3: GCC Sewerage Assets Capacities

Component	Existing Capacity <sup>2</sup> (Native Units)	Future Capacity	Total Capacity	Conversion (occupancy rate)	Unit	Capacity of Assets in 30 years (ET)
<b>Griffith</b>						
Treatment Plant	37,500	12,500	50,000			
<b>Bilbul</b>						
Treatment Plant	310		310			
<b>Yenda</b>						
Treatment Plant	1,500		1,500			
<b>Total treatment plants capacities</b>						
			51,810	2.3	EP / ET	22,526





Griffith City Council

# 2012 DSP Background Document for Sewerage

## Capital Charge Calculation

Return on Investment Factor Approach		
ROI Before	1996	3%
ROI after		7%
Cap	30	years
Year when capacity is taken up	2040	

Table 4: GCC Sewerage Capital Charges Calculations

Asset	Year of Commissioning	Capital Cost (\$'000)	Base Year for PV	PV capital cost	Discount Rate	Take-up period	ROI Factor	Capital Charge + ROI (09/10)	Capacity (ETs)	Capital Charge/ ET (09/10)
<b>GRIFFITH</b>										
<b>Existing (pre 1996)</b>										
Assets commissioned in 1970	1970	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1971	1971	\$126,094	2010	\$126,094	3%	30	1.5	\$187,375		
Assets commissioned in 1972	1972	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1973	1973	\$173,469	2010	\$173,469	3%	30	1.5	\$257,774		
Assets commissioned in 1974	1974	\$818,348	2010	\$818,348	3%	30	1.5	\$1,216,063		
Assets commissioned in 1975	1975	\$3,407,400	2010	\$3,407,400	3%	30	1.5	\$5,063,388		
Assets commissioned in 1976	1976	\$273,394	2010	\$273,394	3%	30	1.5	\$406,263		
Assets commissioned in 1977	1977	\$2,052,583	2010	\$2,052,583	3%	30	1.5	\$3,050,134		
Assets commissioned in 1978	1978	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1979	1979	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1980	1980	\$3,979,687	2010	\$3,979,687	3%	30	1.5	\$5,913,806		
Assets commissioned in 1981	1981	\$1,607,560	2010	\$1,607,560	3%	30	1.5	\$2,388,831		
Assets commissioned in 1982	1982	\$288,784	2010	\$288,784	3%	30	1.5	\$429,132		
Assets commissioned in 1983	1983	\$3,911,615	2010	\$3,911,615	3%	30	1.5	\$5,812,652		
Assets commissioned in 1984	1984	\$168,273	2010	\$168,273	3%	30	1.5	\$250,053		
Assets commissioned in 1985	1985	\$68,358	2010	\$68,358	3%	30	1.5	\$101,580		
Assets commissioned in 1986	1986	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1987	1987	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1988	1988	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1989	1989	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1990	1990	\$523,294	2010	\$523,294	3%	30	1.5	\$777,613		
Assets commissioned in 1991	1991	\$8,505,334	2010	\$8,505,334	3%	30	1.5	\$12,638,908		
Assets commissioned in 1992	1992	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1993	1993	\$0	2010	\$0	3%	30	1.5	\$0		
Assets commissioned in 1994	1994	\$467,400	2010	\$467,400	3%	30	1.5	\$694,556		
Assets commissioned in 1995	1995	\$344,947	2010	\$344,947	3%	30	1.5	\$512,590		
		<b>\$26,716,539</b>						<b>\$39,700,720</b>		





# Griffith City Council

## 2012 DSP Background Document for Sewerage

## Capital Charge Calculation

Asset	Year of Commissioning	Capital Cost (\$'000)	Base Year for PV	PV capital cost	Discount Rate	Take-up period	ROI Factor	Capital Charge + ROI (09/10)	Capacity (ETs)	Capital Charge/ET (09/10)
<b>Existing (post 1996)</b>										
Assets commissioned in 1996	1996	\$154,852	2010	\$154,852	7%	30	2.3	\$349,876		
Assets commissioned in 1997	1997	\$0	2010	\$0	7%	30	2.3	\$0		
Assets commissioned in 1998	1998	\$428,730	2010	\$428,730	7%	30	2.3	\$968,686		
Assets commissioned in 1999	1999	\$119,887	2010	\$119,887	7%	30	2.3	\$270,876		
Assets commissioned in 2000	2000	\$892,999	2010	\$892,999	7%	30	2.3	\$2,017,670		
Assets commissioned in 2001	2001	\$0	2010	\$0	7%	30	2.3	\$0		
Assets commissioned in 2002	2002	\$91,977	2010	\$91,977	7%	30	2.3	\$207,816		
Assets commissioned in 2003	2003	\$0	2010	\$0	7%	30	2.3	\$0		
Assets commissioned in 2004	2004	\$339,288	2010	\$339,288	7%	30	2.3	\$766,598		
Assets commissioned in 2005	2005	\$266,533	2010	\$266,533	7%	30	2.3	\$602,213		
Assets commissioned in 2006	2006	\$0	2010	\$0	7%	30	2.3	\$0		
Assets commissioned in 2007	2007	\$74,162	2010	\$74,162	7%	30	2.3	\$167,563		
Assets commissioned in 2008	2008	\$2,247,409	2010	\$2,247,409	7%	30	2.3	\$5,077,868		
Assets commissioned in 2009	2009	\$0	2010	\$0	7%	30	2.3	\$0		
Assets commissioned in 2010	2010	\$34,356,127	2010	\$34,356,127	7%	30	2.3	\$77,625,328		
		<b>\$38,971,963</b>						<b>\$88,054,496</b>		
<b>Future</b>										
Assets planned for 2010	2010	\$38,000	2010	\$38,000	7%	30	2.3	\$85,858		
Assets planned for 2011	2011	\$71,000	2010	\$66,355	7%	29	2.2	\$146,478		
Assets planned for 2012	2012	\$181,000	2010	\$158,092	7%	28	2.2	\$340,855		
Assets planned for 2013	2013	\$668,000	2010	\$545,287	7%	27	2.1	\$1,147,903		
Assets planned for 2014	2014	\$596,000	2010	\$454,686	7%	26	2.1	\$934,267		
Assets planned for 2015	2015	\$711,000	2010	\$506,933	7%	25	2.0	\$1,016,360		
Assets planned for 2016	2016	\$331,000	2010	\$220,559	7%	24	2.0	\$431,335		
Assets planned for 2017	2017	\$674,000	2010	\$419,733	7%	23	1.9	\$800,404		
Assets planned for 2018	2018	\$1,793,000	2010	\$1,043,542	7%	22	1.9	\$1,939,747		
Assets planned for 2019	2019	\$1,155,000	2010	\$628,243	7%	21	1.8	\$1,137,925		
Assets planned for 2020	2020	\$31,000	2010	\$15,759	7%	20	1.8	\$27,804		
Assets planned for 2021	2021	\$415,000	2010	\$197,164	7%	19	1.7	\$338,736		
Assets planned for 2022	2022	\$31,000	2010	\$13,764	7%	18	1.7	\$23,019		
Assets planned for 2023	2023	\$477,000	2010	\$197,938	7%	17	1.6	\$322,108		
Assets planned for 2024	2024	\$31,000	2010	\$12,022	7%	16	1.6	\$19,030		
Assets planned for 2025	2025	\$7,031,000	2010	\$2,548,358	7%	15	1.5	\$3,922,374		
Assets planned for 2026	2026	\$31,000	2010	\$10,501	7%	14	1.5	\$15,710		
Assets planned for 2027	2027	\$31,000	2010	\$9,814	7%	13	1.5	\$14,266		
Assets planned for 2028	2028	\$31,000	2010	\$9,172	7%	12	1.4	\$12,950		
Assets planned for 2029	2029	\$31,000	2010	\$8,572	7%	11	1.4	\$11,752		
Assets planned for 2030	2030	\$31,000	2010	\$8,011	7%	10	1.3	\$10,660		





Griffith City Council

2012 DSP Background Document for Sewerage

# Capital Charge Calculation

Asset	Year of Commissioning	Capital Cost (\$'000)	Base Year for PV	PV capital cost	Discount Rate	Take-up period	ROI Factor	Capital Charge + ROI (09/10)	Capacity (ETs)	Capital Charge/ ET (09/10)
Assets planed for 2031	2031	\$31,000	2010	\$7,487	7%	9	1.3	\$9,666		
Assets planed for 2032	2032	\$31,000	2010	\$6,997	7%	8	1.3	\$8,761		
Assets planed for 2033	2033	\$31,000	2010	\$6,539	7%	7	1.2	\$7,938		
Assets planed for 2034	2034	\$31,000	2010	\$6,112	7%	6	1.2	\$7,190		
Assets planed for 2035	2035	\$31,000	2010	\$5,712	7%	5	1.1	\$6,510		
Assets planed for 2036	2036	\$31,000	2010	\$5,338	7%	4	1.1	\$5,891		
Assets planed for 2037	2037	\$31,000	2010	\$4,989	7%	3	1.1	\$5,330		
Assets planed for 2038	2038	\$31,000	2010	\$4,662	7%	2	1.0	\$4,820		
Assets planed for 2039	2039	\$31,000	2010	\$4,357	7%	1	1.0	\$4,357		
		<b>\$14,668,000</b>						<b>\$12,760,004</b>		

<b>TOTAL ASSETS CAPITAL CHARGE</b>								<b>\$ 140,515,219</b>	<b>22,526</b>	<b>\$ 6,238</b>
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Notes:

Backlog assessments are added to residential assessments.

"Residential assessments" includes both pensioner and non-pensioner assessments.

Aggregate  
conversion  
factor

No. ETs per residential assessment	1.00
No. ETs per non-residential assessment	4.57

Table 5: 30 years Growth Projections

Financial Year end	New Assessments in year		Assessments at end of year		ETs		
	Residential	Non- residential	Residential	Non- residential	Residential	Non- residential	Total Hydraulic
2010			7999	837	7999	3825	11824
2011			8021	847	8021	3871	11892
2012	22	10	8,043	857	8043	3917	11960
2013	60	10	8103	867	8103	3962	12065
2014	80	10	8183	877	8183	4008	12191
2015	90	10	8273	887	8273	4054	12327
2016	95	14	8368	901	8368	4119	12486
2017	95	14	8462	916	8462	4184	12646
2018	95	14	8557	930	8557	4249	12806
2019	95	14	8651	944	8651	4314	12966
2020	95	14	8746	958	8746	4380	13126
2021	120	20	8866	978	8866	4471	13337
2022	120	20	8986	998	8986	4562	13548
2023	120	20	9106	1018	9106	4654	13760
2024	120	20	9226	1038	9226	4745	13971
2025	120	20	9346	1058	9346	4837	14183
2026	125	25	9471	1083	9471	4951	14422
2027	125	25	9596	1108	9596	5065	14661
2028	125	25	9721	1133	9721	5179	14900
2029	125	25	9846	1158	9846	5294	15140
2030	125	25	9971	1183	9971	5408	15379
2031	135	30	10106	1213	10106	5545	15651
2032	135	30	10241	1243	10241	5682	15923
2033	135	30	10376	1273	10376	5819	16195
2034	135	30	10511	1303	10511	5956	16467
2035	135	30	10646	1333	10646	6093	16739
2036	140	35	10786	1368	10786	6253	17039
2037	140	35	10926	1403	10926	6413	17339
2038	140	35	11066	1438	11066	6573	17639
2039	140	35	11206	1473	11206	6733	17939
2040	140	35	11346	1508	11346	6893	18239





# Developer Charge Calculation

Griffith City Council

2012 DSP Background Document for Sewerage

Sydney CPI June 2012

1.3%

Table 6: GCC Sewerage Developer Charge Calculation

Sewerage serviced areas	Capital Charge (10/11 \$)	Reduction Amount (\$/ET)	Developer Charge (\$/ET) 10/11\$	Developer Charge (\$/ET) 13/14 \$
Griffith, Bilbull and Yenda	\$6,238	\$1,269	\$4,969	\$5,165



Table 3.1: Summary of the results of the 2011 survey

Category	Number of responses	Percentage of total responses	Comments
Category 1	10	10.0%	
Category 2	20	20.0%	
Category 3	30	30.0%	
Category 4	40	40.0%	
Category 5	50	50.0%	
Category 6	60	60.0%	
Category 7	70	70.0%	
Category 8	80	80.0%	
Category 9	90	90.0%	
Category 10	100	100.0%	

## Appendix C

### Reduction Amount



**Table Wastewater - Calculation of Developer Charges using the NPV of Annual Charges Method**  
Based on Input Reduction Amounts of \$1,296 /ET (2nd iteration)

Griffith City Council

Year	Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Year	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
<b>Developer Charges</b>																					
	Year 1	2010/11																			
	Base Year	2010/11																			
Average Capital Charges per ET (2010/11\$)		6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238
Inflation from Base year to Year 1 (%)		0.00%																			
Capital Charge (2010/11\$)		6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,240
Input Reduction Amounts (2010/11\$)		1,296	1,296	1,296	1,296	1,296	758	548	321	79	-177	-448	950	925	905	887	864	840	915	982	998
Developer Charge per ET (2010/11\$)		4,940	4,940	4,940	4,940	4,940	5,480	5,690	5,920	6,160	6,420	6,690	5,290	5,320	5,340	5,350	5,380	5,400	5,320	5,260	5,240
Developer Charges per assessment - Residential (2010/11\$)		4,940	4,940	4,940	4,940	4,940	5,480	5,690	5,920	6,160	6,420	6,690	5,290	5,320	5,340	5,350	5,380	5,400	5,320	5,260	5,240
Developer Charges per assessment - Non-Residential (2010/11\$)		22,230	22,230	22,230	22,230	22,230	24,660	25,605	26,640	27,720	28,890	30,105	23,805	23,940	24,030	24,075	24,210	24,300	23,940	23,670	23,580
<b>Assessments &amp; ETs</b>																					
	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
Residential Assessments at year end	8,070	8,151	8,233	8,315	8,398	8,482	8,567	8,653	8,740	8,827	8,915	9,004	9,094	9,185	9,277	9,370	9,464	9,559	9,655	9,752	9,850
Non Residential Assessments at year end	991	1,001	1,011	1,021	1,031	1,041	1,051	1,062	1,073	1,084	1,095	1,106	1,117	1,128	1,139	1,150	1,162	1,174	1,186	1,198	1,210
Backlog Assessments at year end	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Assessments at year end	9,061	9,152	9,244	9,336	9,429	9,523	9,618	9,715	9,813	9,911	10,010	10,110	10,211	10,313	10,416	10,520	10,626	10,733	10,841	10,950	11,060
ET per Residential Assessment	1																				
ET per Non Residential Assessment	4.5																				
Total ETs	12,530	12,656	12,783	12,910	13,038	13,167	13,297	13,432	13,569	13,705	13,843	13,981	14,121	14,261	14,403	14,545	14,693	14,842	14,992	15,143	15,295
New ETs per year (excluding backlog)	-	126	127	127	128	129	130	136	137	137	138	139	140	141	142	143	148	149	150	151	152
Cumulative New ETs (excluding backlog)	-	126	253	380	508	637	767	903	1,039	1,176	1,313	1,452	1,591	1,732	1,873	2,016	2,164	2,313	2,463	2,614	2,766
PV (new ETs excluding backlog) 30 years @ 7% pa	-	1,827	1,842	1,856	1,872	1,887	1,902	1,918	1,928	1,939	1,950	1,960	1,971	1,981	1,991	2,000	2,009	2,012	2,015	2,017	2,018
<b>Revenue and Expenditure</b>																					
Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant																					
Revenue (\$'000) (2010/11\$)		7,370	7,450	7,524	7,595	7,672	7,759	7,838	7,915	7,997	8,076	8,157	8,239	8,322	8,404	8,486	8,569	8,652	8,735	8,818	8,901
OMA Expenditure (\$'000) (2010/11\$)		3,474	3,644	3,742	3,794	3,848	3,901	3,956	4,009	4,066	4,123	4,212	4,271	4,331	4,392	4,453	4,518	4,622	4,798	4,869	4,938
Revenue less OMA Expenditure (\$'000)		3,896	3,806	3,782	3,801	3,824	3,858	3,882	3,906	3,931	3,953	1,705	1,711	1,713	1,711	1,716	1,711	1,636	1,564	1,563	1,560
Revenue less OMA Expenditure for new ETs (\$'000)		39	75	111	148	185	223	261	299	337	375	177	193	208	223	238	252	255	257	270	282
PV (Revenue less OMA Expenditure for new ETs) 30 years @ 7% pa (\$'000)		2,939	2,648	2,366	2,069	1,737	1,376	978	539	65	-442	-984	1,815	1,774	1,738	1,708	1,666	1,638	1,767	1,922	1,933
Output (calculated) Reduction Amounts		1,608	1,438	1,275	1,106	920	723	510	279	34	-227	-502	921	895	873	854	830	814	877	953	957.6
Average Calculated Reduction for a 5 yr Period		1,269	1,269	1,269	1,269	1,269	723	510	279	34	-227	-502	921	895	873	854	830	814	877	953	957.6
% Difference Between the Input and Output																					

**General Notes:**

- Approximately three iterations of the financial planning model are normally required until the Output Reduction Amount for the first 5 years is within 2% of the Input Reduction Amount.

Developer Cha	4,971	4,971	4,971	4,971	4,971	5,517	5,730	5,961	6,206	6,467	6,742	5,319	5,345	5,367	5,386	5,410	5,426	5,363	5,287	5,282
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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
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	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	2059/60
6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	
6,240	6,240	6,240	6,240	6,240	6,240	6,240	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	6,238	
1,011	1,004	1,001	996	1,000	1,012	1,020	1,028	1,041	1,061	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	
5,230	5,240	5,240	5,240	5,240	5,230	5,220	5,210	5,200	5,180	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	
5,230	5,240	5,240	5,240	5,240	5,230	5,220	5,210	5,200	5,180	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	5,170	
23,535	23,580	23,580	23,580	23,580	23,535	23,490	23,445	23,400	23,310	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	23,265	

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	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	2059/60
9,949	10,048	10,148	10,249	10,351	10,455	10,560	10,666	10,773	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	10,881	
1,222	1,234	1,246	1,258	1,271	1,284	1,297	1,310	1,323	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11,171	11,282	11,394	11,507	11,622	11,739	11,857	11,976	12,096	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	12,217	
15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	15,295	
152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	
2,918	3,070	3,222	3,374	3,526	3,678	3,830	3,982	4,134	4,286	4,438	4,590	4,742	4,894	5,046	5,198	5,350	5,502	5,654	5,806	5,958	6,110	6,262	6,414	6,566	6,718	6,870	7,022	7,174	
2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	2,018	

6,561	6,629	6,693	6,760	6,834	6,905	6,971	7,048	7,115	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193	7,193
5,012	5,084	5,159	5,235	5,313	5,392	5,474	5,553	5,637	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720	5,720
1,549	1,545	1,534	1,525	1,521	1,513	1,497	1,495	1,478	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	1,473	
295	310	323	336	351	364	375	389	399	413	427	442	457	471	486	501	515	530	544	559	574	588	603	618	632	647	662	676	691
1,953	1,958	1,948	1,959	1,968	1,964	1,974	2,016	2,014	2,071	2,089																		
967	970	965	971	975	973	978	999	998	1,026	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035
967	970	965	971	975	973	978	999	998	1,026	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035



Based in Sydney and Byron Bay, HydroScience Consulting (HSc) is an Australian consultancy dedicated to serving the water industry in Australia.

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