



# Wingecarribee Shire Council Development Servicing Plans for Water Supply and Sewerage

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## Executive summary

Developer Charges are an integral part of the fair pricing of water supply and sewerage services. They are up-front charges levied on developers to recover part of the infrastructure costs incurred in servicing new developments or changes to existing development.

This document covers the Development Servicing Plans (DSPs) for water supply and sewerage development areas served by Wingecarribee Shire Council. The maps of the development service areas for water supply and sewerage are shown in Appendix A and Appendix B respectively.

The DSPs have been prepared in accordance with the Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2002) under the recommendations from DPI Water. These DSPs have been prepared in accordance with the 2002 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater issued by the Minister for Primary Industries, pursuant to section 64 of the Local Government Act, 1993 and section 306 (3) of the Water Management Act 2000.

The proposed water supply and sewerage developer charges for the area covered by these DSPs have been determined in 2015/16 dollars as follows:

- Wingecarribee Shire Water Supply DSP area: \$10,483 per ET
- Wingecarribee Shire Sewerage DSP area: \$10,163 per ET

After adjustment for CPI of 1.84% for Sydney during 2016/17, the calculated developer charges from 1<sup>st</sup> July 2017 are:

Water supply service	Developer charge 2016/17 (\$ per ET)
Wingecarribee Shire Water Supply DSP area	\$10,676

Sewerage service	Developer charge 2016/17 (\$ per ET)
Wingecarribee Shire Sewerage DSP Area	\$10,350

The developer charges should be indexed on the basis of movements in the consumer price index (CPI) for Sydney, excluding the impact of GST. Wingecarribee Shire Council being a general purpose Council, the developer charges will be indexed quarterly so as to match the indexing cycle of Council's Section 94 contribution plans.

The DSPs have been adopted by Council after public exhibition on 26 July 2017 and the adopted developer charges are effective from 15 September 2017. The developer charges calculated in these DSPs will be reviewed after 5 years.

The existing assets and the timing and expenditures for future capital works serving the Wingecarribee Shire Council area and the Council's water supply and sewerage levels of service are summarised in these plans.

Developers shall be responsible for the full cost of the design and construction of water supply and sewerage reticulation works within subdivisions.

The background documents for Water Supply and Sewerage DSPs are included in Appendix C12Appendix C and Appendix D respectively. The electronic copy of these documents containing all the critical data and calculation models behind each DSP is available on request.

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# 1 Introduction

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The developer charges are up-front charges levied by urban water utilities to recover part of the infrastructure costs incurred in servicing new developments or additions or changes to the existing developments.

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.

The Development Servicing Plans detail the water supply and sewerage developer charges to be levied on development areas utilising a water utility's water supply and sewerage infrastructure.

The aims and objectives of these DSPs are to:

- Provide an overall administrative framework under which specific water and sewerage assets may be co-ordinated and constructed
- Ensure that adequate water and sewerage infrastructure is provided for as part of the new development
- Provide a comprehensive strategy for the assessment, collection, expenditure accounting and review of contributions on an equitable basis
- Ensure that the existing community is not burdened by the provision of water infrastructure as a result of future development
- Enable Council to be both publicly and financially accountable in its assessment and administration of the Development Servicing Plans.

These DSPs cover water supply and sewerage developer charges in regard to the development areas served by Wingecarribee Shire Council. The water supply and sewerage DSP areas serviced by Wingecarribee Shire Council are shown in Appendix A and Appendix B respectively.

These DSPs have been prepared in accordance with the 2002 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater issued by the Minister for Primary Industries, pursuant to section 64 of the Local Government Act, 1993 and section 306 (3) of the Water Management Act 2000. The DPI Water has reviewed these DSPs for water supply and sewerage prior to Wingecarribee Shire Council adopting them.

Once adopted, these DSPs supersede any other requirements related to water supply and sewerage developer charges for the development areas covered by these DSPs. These DSPs take precedence over any of Council's codes or policies where there are any inconsistencies relating to water supply and sewerage developer charges.

The developer charges should be indexed on the basis of movements in the consumer price index (CPI) for Sydney, excluding the impact of GST. Wingecarribee Shire Council being a general purpose Council, the developer charges will be indexed quarterly so as to match the indexing cycle of the Section 94 contribution plans.

Developers shall be responsible for the full cost of the design and construction of water supply and sewerage reticulation works within subdivisions.

## 2 Administration

### 2.1 DSP areas and names

Wingecarribee Shire Council operates and manages a reticulated water supply system and six reticulated sewerage schemes to serve townships within the Wingecarribee Local Government Area.

These DSPs are applicable to all land within the DSP areas which is serviced by Wingecarribee Shire Council's water and sewerage infrastructure. The DSP names and areas covered are presented in the following table.

**Table 1: DSP areas covered**

DSP Details		Schemes covered	Area covered
<b>WDSP 1</b>	Wingecarribee Water Supply DSP	Wingecarribee	The maps of the water supply areas covered by this DSP are shown in Appendix A.
		Bundanoon	
<b>SDSP 1</b>	Wingecarribee Sewerage DSP	Berrima	The maps of the sewerage service areas covered by this DSP are shown in Appendix B.
		Bowral	
		Bundanoon	
		Mittagong	
		Moss Vale	
		Robertson	

The DSP area boundaries are based on the existing and future developments to be served by Council's water supply and sewerage services. Regarding the new developments outside the water supply and the sewerage DSP areas boundaries, Council may:

- apply the developer charges adopted by this Plan to the new development, or
- prepare a new DSP for the new development.

### 2.2 Application of developer charges

Developer charges will be levied to all land within the DSP areas. Wingecarribee Shire Council will assess the demand for service in terms of equivalent tenements (ET) and will levy developer charges proportional to the number of ETs. The developer charges will apply to new developments as well as re-developments (i.e. change of use).

### 2.3 Effective commencement date for this DSP

This DSP has been adopted by Wingecarribee Shire Council on 26 July 2017 and will be effective from 15 September 2017. Charges will be levied pursuant to this DSP, as a condition of development consent granted on or after the day this DSP came into effect.

For development consents (including complying development certificates) granted by the Council or a Private Certifier prior to 15 September 2017 and where an application is made to the Council under section 305 of the Water Management Act 2000 for a certificate of compliance for the development prior to close of business (4.30pm) on Friday, 18 May 2018, the following developer charges apply:



- Water Supply Developer Charge - \$6,736.74 per ET
- Sewerage Developer Charge - \$8,574.04 per ET

Where an application for a certificate of compliance is made after Friday, 18 May 2018, the development will be subject to the rates as adopted by the revised Development Servicing Plan that came into effect on 15 September 2017.

## **2.4 Timing and payment of developer charges**

The Developer charges will be determined and levied in accordance with the provisions of this DSP at the time of considering an application for a compliance certificate under section 305 of the Water Management Act 2000 or a construction certificate under section 109 of the Environmental Planning and Assessment Act 1979.

The time limit for payment of developer charges will be included in the notice of determination or will be advised to the developer by a separate notice. The amount of any developer charges not paid within the specified time limit will lapse. Any subsequent determination of developer charges will be made in accordance with council's then current DSP.

The Developer charges are payable to Wingecarribee Shire Council before the following events:

- subdivision – prior to the release of the linen plan or approved engineering plans, whichever occurs first;
- dwellings and other buildings – prior to the issue of construction certificate

Other arrangements for payment are at Council's discretion and depend upon the circumstances of the contributor or the development.

Where the applicant can demonstrate that the settlement of the contribution as set out above is unreasonable in the circumstances of the case, the Council may accept deferred or periodic settlement.

Due to the general consistency of subdivisions and dwellings within the Shire no discount rates apply and the basic charge as set out in the Development Servicing Plans will apply unless special circumstances can be established to the satisfaction of Council.

## **2.5 Method of payment**

Developer charges must be made in the form of monetary payments to Council. The development consents will contain the conditions specifying the developer charges amount payable at the time when the consent is issued. A note will be attached to the consent condition which will advise that the DC will be at the rate which applies at the time of payment. That is the rate may increase, through indexation or replacement of this DSP with a new one, from the time the condition appears on the notice of development consent until the time the DC is actually paid to Council.

Developers may seek Council's agreement and approval on payment deferral. Where the applicant can demonstrate that the settlement of the contribution as set out by the Council is unreasonable in the circumstances of the case, the Council may accept deferred or periodic settlement. Any request should provide detailed reasons and should agreement be granted, deferral will be subject to the following requirements:

- The applicant is to arrange for a Bank Guarantee to be prepared to the value of contributions payable as agreed to by Council (this is to include indexation where applicable),
- The Bank Guarantee is to be made in favour of Council,
- Council is to be the custodian of the original Bank Guarantee, and

- The maximum time frame granted for deferment is (6) months. Should the contributions not be paid by this time, Council will exercise its right under the agreement to call in the Bank Guarantee without notice. Should the approved deferment overlap into the following financial year, then the contribution(s) payable will be subject to indexation.

Upon Council's approval, the charges will be recorded as a debt against the property and payable at a rate applicable at the time of payment.

## **2.6 Exemptions from developer charges for crown developments**

Under section 306 (4) and (5) of the Water Management Act 2000, the Minister for Planning may make a determination in regards to developer charges levied on Crown Developments.

Crown developments for essential community services (education, health, community services, and law and order) are exempt from general developer charges. Water utilities may charge these developments only for that portion of the direct connection cost (e.g. for a lead-in main) relating to Crown development.

The contributions set out in this DSP apply to all forms of development within the Shire of Wingecarribee, except for the following:

- a. Erection of a single dwelling house on an existing vacant allotment of land
- b. Alterations or additions to a single dwelling house where such alterations do not create additional dwellings
- c. Subdivision of land that does not create any additional allotments
- d. Construction of commercial buildings except in circumstances described below
- e. Construction of industrial buildings except in circumstances described below

Council will require development applications for non-profit developments, such as schools or senior citizen housing to be accompanied by a statement of public benefit to enable it to assess the extent, if any, of contributions to be paid.

No charges are applicable to commercial or industrial developments for public facilities, unless in the opinion of Council:

- The development generates a high demand for infrastructure (such as heavy vehicle traffic, stormwater runoff etc.)
- Circumstances warrant the levying of a charge on the basis that extraordinary demands will be placed on Council's infrastructure and services.

These charges will be calculated and levied on an individual merits basis based on a report prepared by the Engineering/ Planning Department of Council (Source: Wingecarribee Shire Council Developer Contributions Plans).

## **2.7 Out of sequence development**

Council plans infrastructure development in accordance to a desired sequence of development. If developer wishes to proceed with a development which is not in the same sequence, provided that there are no other constraints to the development, Council may approve the construction of the essential assets ahead of time. In such cases, the assets will be sized by the Council in accordance to the requirements of the DSP and the full capital cost would initially be met by this developer.

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

Developer is recommended to seek further advice from Council on out of sequence development.

## 2.8 “Works-in-kind” contributions

Upon written request, Council will consider an offer by the applicant to make a contribution by way of “works-in-kind” provided that:

- a) The proposed work satisfies the demands for the kind of public amenities and facilities, for which the contribution is sought,
- b) The proposed work will not prejudice the timing or the manner of the provision of the amenity or facility for which the contribution was required,
- c) The value of the work is at least equal to the value of the contribution assessed in accordance with this plan and that this value is adequately documented,
- d) Agreement has been reached as to the standard of work to be undertaken, and
- e) Where the difference of the value of the work in kind is less than the contribution assessed in accordance with this plan, the balance shall be made by way of monetary contribution.

As part of the Council’s decision making process, a request would only be considered provided the applicant was agreeable to all of the following stipulations:

- An agreement between the applicant and Council on the cost of the works (and value of the work in kind) which is to be determined by reference to satisfactory plans, breakdown of costs, review of audited statements and accounts or similar submitted by the applicant. There would be no indexing of the value of the work in kind or credits so granted.
- The number of credits for a particular type of contribution will be determined by dividing the agreed value of the proposed work by the rate applying to that contribution at the time of the agreement. The credits so agreed will be progressively reduced as the development proceeds. The agreed works schedule may specify those works that may be considered as works in kind.
- An agreed 12 month Defects Liability Period for the cost of the agreed work.
- An agreed standard of workmanship.
- An agreed timetable for the inspection of the works.
- An agreed program for the completion of works.
- Submission of an itemised statement of costs (including all receipts) of the completed works. Where the final cost of the works is less than the initial agreed cost of works, the balance is to be paid to Council as a monetary contribution. The costs of works are to also include a breakdown of all labour costs.

It should be noted that Council will not acknowledge any costs incurred associated with the agreement of Works in Kind as part of above itemised statement.

The decision to accept settlement of a contribution by way of a work-in-kind is at the sole discretion of Council and will require a Council resolution prior to implementation.

It is Council’s preference that for broad acre release areas that Council accepts works in kind and that these are to be fully constructed prior to the release of the Linen Plan or at such time as identified in a “written agreement” between Council and the developer.

Should works-in-kind that have been agreed to by Council be later withdrawn by the applicant for any reason, then the applicant will be liable for the payment of contributions in accordance with the conditions of development consent or complying development certificate plus any indexations that may have occurred since the approval date.

## **2.9 Levying developer charges under DSP**

Council will determine and levy the developer charges in accordance with the provisions of this DSP at the time of considering a development application.

The time limit for payment and the developer charges determination will be included in the development consents.

The amount of any developer charges not paid within the specified time limit will lapse. Any subsequent determination of developer charges prior to issue of a Compliance Certificate will be recalculated and made in accordance with council current developer charges.

## **2.10 Indexation**

The developer charges should be indexed on the basis of movements in the consumer price index (CPI) for Sydney, excluding the impact of GST. Wingecarribee Shire Council being a general purpose Council, the developer charges will be indexed quarterly so as to match the indexing cycle of Council's Section 94 contribution plans.

## 3 Demographics, growth projections and land use

### 3.1 Demography

The recent Estimated Residential Population (ERP) and the Basic Community Profile (BCP) census population for the Wingecarribee Shire LGA are summarised in the Table below.

**Table 2: Historical population growth**

Population	Year	1996	2001	2006	2011	2014
ERP	Population	37,988	42,384	43,532	46,126	47,584
	Equivalent annual growth rate over previous period		2.21%	0.54%	1.16%	1.04%
BCP	Population	36,777	40,840	41,868	43,947	-
	Equivalent annual growth rate over previous period		2.12%	0.50%	0.97%	-

### 3.2 Equivalent tenements and projections for service areas

Council's IWCM Strategy considered a number of population studies to develop a future population growth strategy and adopted a population and dwelling growth forecasts. For the purpose of the Development Servicing Plans, these forecasts were further reviewed in light of actual growth observed in the existing serviced areas and release areas earmarked to accommodate growth. As observed by the Council, the rate of growth in the Chelsea Gardens/ Coomungie release areas and the Moss Vale Enterprise Corridor (MVEC) is slower than the adopted growth forecast. Accordingly, for Moss Vale service area, the adopted growth rate in the IWCM has been moderated to be consistent with the growth observed on ground.

The estimated equivalent tenements (ET) growth forecasts for the water supply and sewerage services used for the calculation of developer charges are summarised in the Tables next page.

### 3.3 Land use information

Information provided in this Plan should be considered in conjunction with Local Environmental Plan, Developer Control Plans (DCPs) and other planning instruments used by Wingecarribee Shire Council.

**Table 3: Wingecarribee water supply DSP area estimated ET projections**

Year no.	Financial Year	ET			Growth Rate, p.a.
		Res	Non Res	Total	
0	2014/15	17961	1829	<b>19,791</b>	2.13%
1	<b>2015/16</b>	<b>18371</b>	<b>1841</b>	<b>20,212</b>	0.60%
2	2016/17	18473	1861	<b>20,333</b>	0.60%
3	2017/18	18575	1880	<b>20,456</b>	0.60%
4	2018/19	18678	1900	<b>20,579</b>	0.60%
5	2019/20	18782	1921	<b>20,702</b>	0.60%
6	<b>2020/21</b>	<b>18886</b>	<b>1941</b>	<b>20,827</b>	1.24%
7	2021/22	19120	1964	<b>21,085</b>	1.24%
8	2022/23	19357	1988	<b>21,345</b>	1.24%
9	2023/24	19597	2012	<b>21,609</b>	1.24%
10	2024/25	19840	2036	<b>21,876</b>	1.24%
11	<b>2025/26</b>	<b>20086</b>	<b>2061</b>	<b>22,147</b>	1.06%
12	2026/27	20301	2081	<b>22,382</b>	1.06%
13	2027/28	20519	2100	<b>22,619</b>	1.06%
14	2028/29	20739	2120	<b>22,859</b>	1.06%
15	2029/30	20961	2141	<b>23,102</b>	1.06%
16	<b>2030/31</b>	<b>21186</b>	<b>2161</b>	<b>23,347</b>	0.86%
17	2031/32	21363	2184	<b>23,548</b>	0.86%
18	2032/33	21542	2208	<b>23,750</b>	0.86%
19	2033/34	21722	2232	<b>23,954</b>	0.86%
20	2034/35	21903	2256	<b>24,159</b>	0.86%
21	<b>2035/36</b>	<b>22086</b>	<b>2281</b>	<b>24,367</b>	0.73%
22	2036/37	22244	2301	<b>24,544</b>	0.73%
23	2037/38	22403	2320	<b>24,723</b>	0.73%
24	2038/39	22563	2340	<b>24,903</b>	0.73%
25	2039/40	22724	2361	<b>25,084</b>	0.73%
26	<b>2040/41</b>	<b>22886</b>	<b>2381</b>	<b>25,267</b>	0.64%
27	2041/42	23024	2405	<b>25,429</b>	0.64%
28	2042/43	23163	2428	<b>25,592</b>	0.64%
29	2043/44	23303	2452	<b>25,756</b>	0.64%
30	2044/45	23444	2477	<b>25,921</b>	0.64%

**Table 4: Wingecarribee sewerage DSP area estimated ET projections**

Year no.	Financial Year	Berrima			Bowral			Bundanoon			Mittagong			Moss Vale + MVEC			Robertson		
		Res	Non Res	Sub Total	Res	Non Res	Sub Total	Res	Non Res	Sub Total	Res	Non Res	Sub Total	Res	Non Res	Sub Total	Res	Non Res	Sub Total
0	2014/15	430	123	553	5357	1118	6,475	1146	70	1,216	5405	1490	6,895	2938	344	3,282	503	77	580
1	2015/16	430	123	553	5,426	1,121	6,547	1,149	70	1,219	5498	1,494	6,992	2,985	345	3,330	506	77	583
2	2016/17	435	123	559	5506	1124	6,630	1152	70	1,222	5593	1498	7,091	2998	354	3,351	509	78	587
3	2017/18	441	124	565	5587	1127	6,713	1155	70	1,225	5689	1501	7,190	3011	362	3,373	512	78	590
4	2018/19	447	124	571	5669	1129	6,798	1157	71	1,228	5787	1505	7,292	3024	371	3,395	515	79	594
5	2019/20	452	125	577	5752	1132	6,885	1160	71	1,231	5887	1508	7,395	3037	381	3,417	518	79	597
6	2020/21	458	125	583	5,837	1,135	6,972	1,163	71	1,234	5,988	1,512	7,500	3,050	390	3,440	521	80	601
7	2021/22	471	125	596	5886	1138	7,024	1166	71	1,237	6027	1516	7,542	3126	398	3,525	524	80	604
8	2022/23	484	125	609	5936	1141	7,077	1168	71	1,240	6065	1520	7,585	3204	407	3,611	527	81	608
9	2023/24	498	126	623	5986	1143	7,130	1171	72	1,242	6104	1523	7,628	3284	416	3,700	530	81	611
10	2024/25	512	126	637	6037	1146	7,183	1173	72	1,245	6143	1527	7,671	3366	425	3,791	533	82	615
11	2025/26	526	126	652	6,088	1,149	7,237	1,176	72	1,248	6,183	1,531	7,714	3,450	434	3,884	536	82	619
12	2026/27	526	126	652	6127	1152	7,279	1179	72	1,251	6237	1535	7,772	3527	443	3,969	540	83	622
13	2027/28	526	127	653	6167	1155	7,322	1181	72	1,254	6292	1539	7,831	3605	451	4,056	543	83	626
14	2028/29	526	127	653	6207	1157	7,365	1184	73	1,256	6348	1543	7,891	3685	460	4,145	546	84	630
15	2029/30	526	128	654	6247	1160	7,408	1186	73	1,259	6404	1547	7,951	3766	470	4,236	549	84	633
16	2030/31	526	128	654	6,288	1,163	7,451	1,189	73	1,262	6,460	1,551	8,011	3,850	479	4,329	552	85	637
17	2031/32	530	128	659	6334	1166	7,500	1198	73	1,271	6508	1555	8,063	3889	487	4,377	556	85	641
18	2032/33	534	129	663	6381	1169	7,550	1206	73	1,280	6556	1559	8,115	3929	496	4,425	559	86	645
19	2033/34	539	129	668	6428	1172	7,600	1215	74	1,289	6605	1562	8,167	3969	505	4,474	562	86	648
20	2034/35	543	130	672	6475	1175	7,650	1224	74	1,298	6654	1566	8,220	4009	514	4,523	566	87	652
21	2035/36	547	130	677	6,523	1,178	7,701	1,233	74	1,307	6,703	1,570	8,273	4,050	523	4,573	569	87	656
22	2036/37	551	130	681	6571	1181	7,752	1242	74	1,316	6753	1574	8,327	4089	532	4,621	572	88	660
23	2037/38	555	130	686	6620	1184	7,804	1251	74	1,325	6803	1578	8,381	4129	541	4,669	576	88	664
24	2038/39	560	131	690	6668	1187	7,855	1260	75	1,334	6853	1582	8,435	4169	550	4,718	579	89	668
25	2039/40	564	131	695	6717	1190	7,907	1269	75	1,344	6904	1586	8,490	4209	559	4,768	582	89	672
26	2040/41	568	131	699	6,767	1,193	7,960	1,278	75	1,353	6,955	1,590	8,545	4,250	568	4,818	586	90	676
27	2041/42	572	131	704	6817	1196	8,013	1287	75	1,362	7007	1594	8,601	4291	577	4,869	589	90	680
28	2042/43	577	131	708	6867	1199	8,066	1296	75	1,372	7058	1598	8,657	4333	587	4,920	593	91	684
29	2043/44	581	132	713	6918	1202	8,120	1306	76	1,381	7111	1602	8,713	4375	597	4,972	596	91	688
30	2044/45	586	132	717	6969	1205	8,174	1315	76	1,391	7163	1606	8,770	4417	607	5,024	600	92	692

## 4 Infrastructure

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### 4.1 Existing services

Wingecarribee Shire Council provides water supply and sewerage services to the townships and villages within the Wingecarribee LGA. A summary of the water supply and sewerage services is included in Table 5.

**Table 5: Wingecarribee Shire water supply and sewerage services**

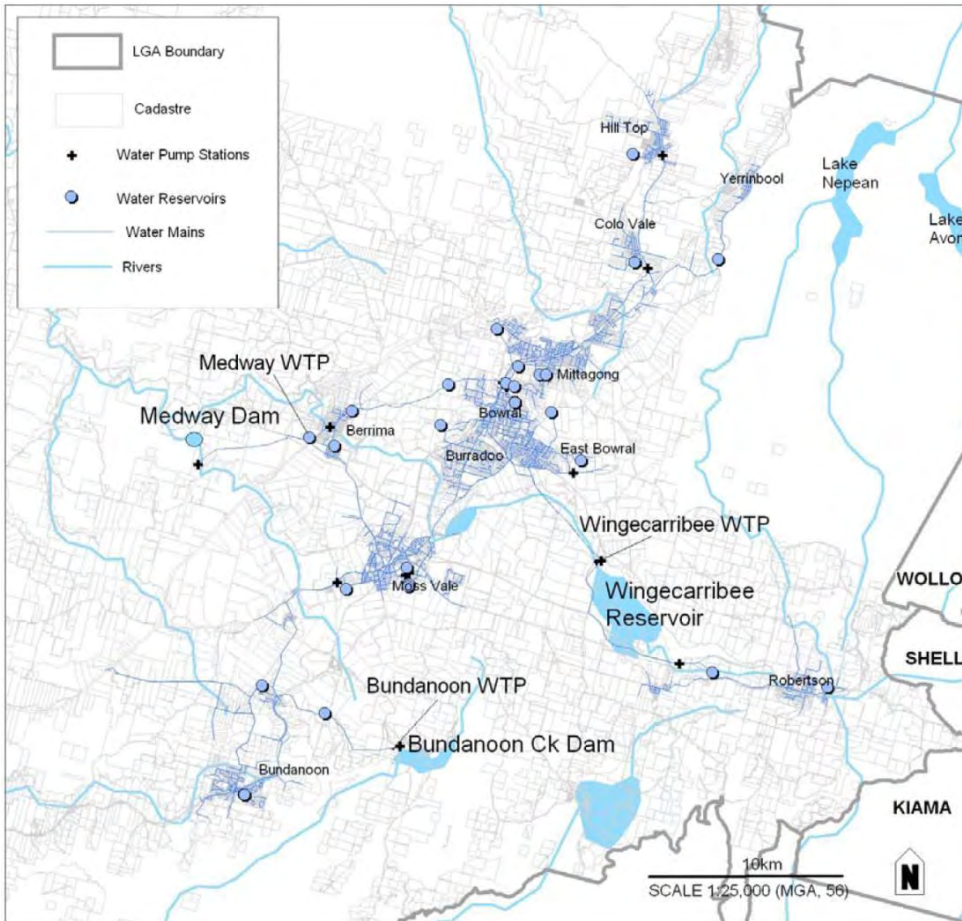
Town/ Village	Water Supply Scheme	Sewerage Scheme
Bowral	Wingecarribee	Bowral
Moss Vale	Wingecarribee	Moss Vale
Mittagong	Wingecarribee	Mittagong
Burradoo	Wingecarribee	Bowral
Hill Top	Wingecarribee	Mittagong
Robertson	Wingecarribee	Robertson
Colo Vale	Wingecarribee	Mittagong
East Bowral	Wingecarribee	Bowral
Yerrinbool	Wingecarribee	Septic tanks
Welby	Wingecarribee	Mittagong
Willow Vale	Wingecarribee	Mittagong
Berrima	Wingecarribee	Berrima
New Berrima	Wingecarribee	Berrima
Bundanoon	Bundanoon/ Wingecarribee	Bundanoon
Exeter	Bundanoon/ Wingecarribee	Septic tanks

### 4.2 Water supply system overview

The Wingecarribee Shire Water Supply System currently provides drinking water to Bowral, Mittagong, Moss Vale and Bundanoon towns and Exeter, Sutton Forest, Aylmerton, Berrima, Robertson, Braemar, Willow Vale, Colo Vale, Hill Top, Yerrinbool, Burrawang, Balacava and New Berrima villages.

There are three water treatment plants in the system; Wingecarribee WTP, Bundanoon WTP and Medway WTP, which supply treated water to an estimated serviced population of over 40,000. The water supply service area is mapped in Figure 4 1.





**Figure 1: Wingecarribee Shire Council water supply service area**

The Wingecarribee Water Supply Scheme consists of an intake and a water treatment plant near Wingecarribee Reservoir. The scheme services the majority of the urban areas in the Wingecarribee Shire. Maps of the scheme service areas are provided in Appendix A.

The Bundanoon Water Supply Scheme is supplied with water sourced from Bundanoon Creek Dam which is fed by a raw water pump station and 1km rising main to Bundanoon Water Treatment Plant. The scheme services the areas of Bundanoon, Exeter and Sutton Forest.

The Medway Water Supply Scheme consists of an intake at Medway Dam, a raw water pump station, a 5.7 km rising main and a treatment plant at Medway. Medway WTP has currently been mothballed due to a number of performance, operation, safety, water quality and operating cost issues. When in use, it supplied water to Berrima, Hopewood, Welby, Gib, Gib North and Murchison reservoirs. Its service area is now served by Wingecarribee WTP.

#### **4.2.1 Existing water supply assets**

Wingecarribee Shire Council has an asset register to detail Council’s water supply infrastructure assets. The asset register is updated on a regular basis.

The current replacement cost (CRC) for the water supply existing assets is \$276.59 M (2015/16\$). All water supply existing assets servicing the Wingecarribee Shire LGA are included in the capital charge calculations except for the following:

- assets commissioned prior to 1970
- assets which are unlikely to be fully utilised over the planning horizon for calculating developer charges
- reticulation assets (which are typically paid for directly by developers)
- gifted assets (which were built by developers and later transferred to Council)

The CRC of water supply assets included for the calculation of capital charge is \$170.61 M (2015/16\$).

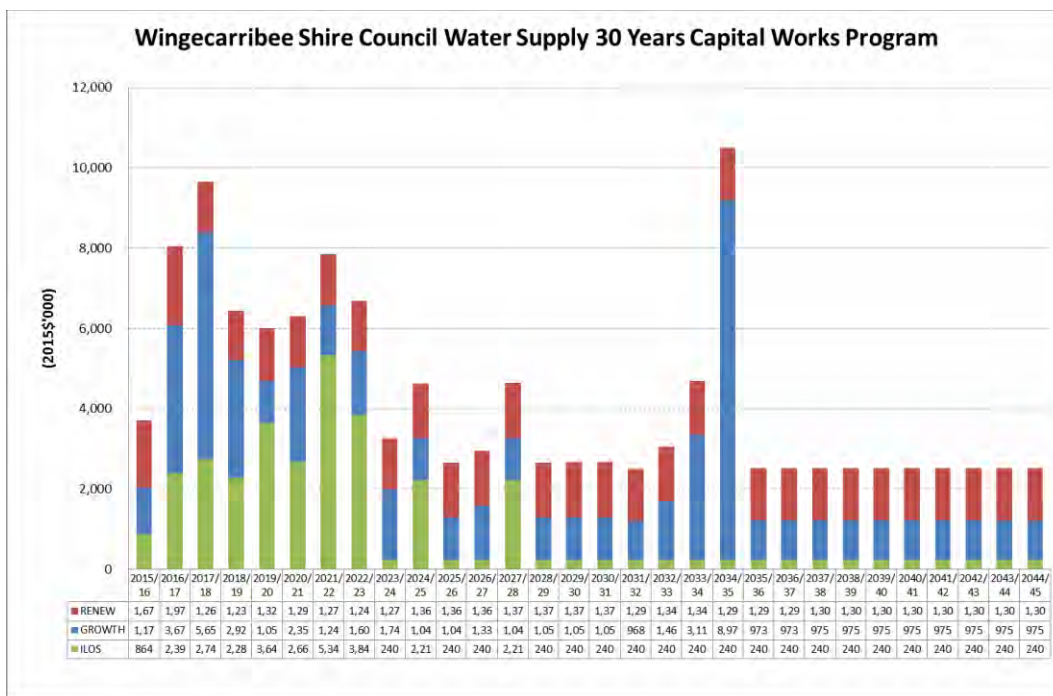
Details of the existing assets servicing the area covered by the water supply DSP are presented in Appendix A. A summary of the existing assets and their current replacement costs (i.e. excluding reticulation, gifted and pre 1970 assets) is shown in Table C1, Appendix C - Water Supply DSP Background Document.

#### 4.2.2 Water supply future capital works

The Wingecarribee Shire Council's water supply capital works program comprises of works for growth, improved standards and renewals. The capital works required for Council to provide water supply to the existing service areas and the new development areas are summarised in Table 6 and detailed in Table C2, Appendix C- Water Supply DSP Background Document.

**Table 6: Water supply future capital works**

Water supply capital works program	30-year capex total ( 2015/16\$'000)	20-year capex total ( 2015/16\$'000)
Improved Levels of Service	32,994	30,594
Growth	53,301	43,556
Renewals	40,410	27,407
<b>Total</b>	<b>126,704</b>	<b>101,556</b>



**Figure 2: Wingecarribee Shire Council water supply 30-year capital works program**

The timing and expenditure for the 30-year water supply capital works covered by the DSP is shown in Figure 2. Details of the 30-year water supply capital works program are included in Appendix C.

Timing of works and expenditure are to be reviewed and updated when required. Capital cost for growth planned within the next 20 years is included while the reticulation is excluded in the capital charges calculation in this DSP. The Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2002) recommend that capital works for renewals and for improving standards of service be excluded from the capital charges calculation.

### **Water reticulation**

Reticulation is defined as the local pipes providing water supply to individual properties. Reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of water supply reticulation works within subdivisions. However, LWUs may calculate a reticulation supplement which would be payable by developers that have not provided the reticulation assets.

## **4.3 Sewerage schemes overview**

Council operates the following six reticulated sewerage services to service townships within the Wingecarribee LGA:

- Berrima sewerage scheme
- Bowral sewerage scheme
- Bundanoon sewerage scheme
- Mittagong sewerage scheme
- Moss Vale sewerage scheme
- Robertson sewerage scheme

Other rural areas use onsite management systems (for example septic tanks) to treat wastewater. Maps of the Wingecarribee Shire sewerage service areas are included in Appendix B.

### **Berrima sewerage scheme**

Berrima STP is located approximately 2 km south-west from the centre of Berrima and services the smaller residential lots in Berrima and New Berrima. Many larger lots (5000 m<sup>2</sup> and up) are not serviced. The scheme is serviced by a conventional gravity sewage collection system, comprising seven (7) pump stations. Berrima STP is a 2,000 EP capacity STP that utilizes a Pasveer channel for secondary treatment and chemical phosphorous removal to treat sewage. Effluent is discharged to Oldbury Creek.

### **Bowral sewerage scheme**

Bowral STP is located approximately 2 km from the centre of Bowral. The plant receives sewage from development within the area of Bowral, East Bowral and Burradoo. Bowral STP is a 14,600 EP capacity STP that Bowral STP is a 14,600 EP capacity STP that utilizes one IDEA reactor and two Pasveer channels for secondary treatment and chemical phosphorus removal to treat sewage. The effluent is filtered and disinfected via a UV unit prior to discharge to Wingecarribee River. Some treated effluent from the STP is currently reused at the STP.

### **Bundanoon sewerage scheme**

Bundanoon sewerage scheme serves the community of Bundanoon. The scheme is serviced by conventional gravity sewerage, comprising eleven (11) pump stations. Bundanoon STP has a design capacity of 5,400 EP and is comprised of an IDEA reactor and Pasveer channel for secondary treatment, cloth media filters, UV disinfection, and chemical phosphorous removal. All sewage gravitates into the reception chamber of the inlet works via the trunk main. Treated effluent is discharged to Reedy Creek, and some is recycled for use in irrigating a sports fields and agricultural land.

### **Mittagong sewerage scheme**

Mittagong STP receives sewage from development within the areas of Mittagong, Willow Vale, Braemar, Hilltop, Colo Vale and Aylmerton. The scheme is serviced by a conventional gravity sewerage collection system, comprising nineteen (19) pump stations. The Mittagong STP currently has a design capacity of 14,000 EP and utilizes two IDAL reactors for secondary treatment, chemical phosphorus removal and UV disinfection to treat sewage

### **Moss Vale sewerage scheme**

Moss Vale STP plant receives sewage from development within the area of Moss Vale. The system is serviced by a conventional gravity sewerage system, comprising twelve (12) pump stations. Moss Vale has a design capacity of 9,000 EP and utilizes two IDEA reactors for secondary treatment, chemical phosphorus removal and UV disinfection to treat sewage. Treated effluent is discharged to Whites Creek.

### **Robertson sewerage scheme**

The raw sewage generated by the town gravitates to a single sewage pumps station (SPS 1) and pumped to Robertson STP. The Robertson STP utilises Siemens BioNutre activated sludge process for secondary treatment followed by filtration in a membrane operating system. Treated water then undergoes UV disinfection. The high quality treated effluent is transferred via a 15 kilometre effluent transfer main to a purpose built 47 ML storage dam in Glenquarry where it is then used for pasture irrigation on 42 hectares of agricultural land.

#### **4.3.1 Sewerage system existing assets**

Wingecarribee Shire Council has an asset register to detail Council's sewerage infrastructure assets. The asset register is updated on a regular basis.

The Current Replacement Cost of the existing sewerage assets is \$269.97 M (2015/16\$). All sewerage existing assets servicing the Wingecarribee Shire LGA are included in the capital charge calculations except for the following:

- assets commissioned prior to 1970
- assets which are unlikely to be fully utilised over the planning horizon for calculating developer charges
- reticulation assets (which are typically paid for directly by developers)
- gifted assets (which were built by developers and later transferred to Council)

The CRC of the existing sewerage existing assets included in the calculation of capital charge is \$202.55 M (2015/16\$).

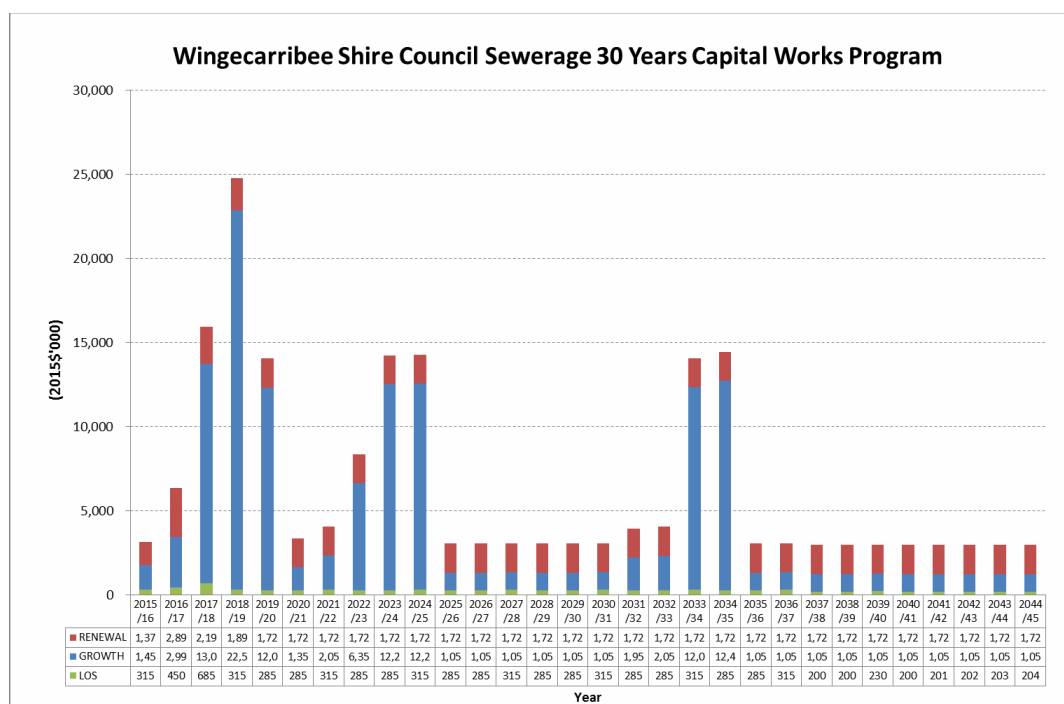
Details of the existing assets servicing the area covered by the sewerage DSP are presented in Appendix B. A summary of the existing assets and their current replacement costs (i.e. excluding reticulation, gifted and pre 1970 assets) is shown in Table D1, Appendix D - Sewerage DSP Background Document.

### 4.3.2 Sewerage system future capital works

The Wingecarribee Shire Council's sewerage capital works program is comprised of works for growth, improved standards and renewals. The capital works required for Council to provide sewerage service to the service areas and the new development areas are summarised in Table 7 and detailed in Table D2, Appendix D - Sewerage DSP Background Document.

**Table 7: Sewerage future capital works**

Sewerage service capital works program	30-year capex total (2015/16\$'000)	20-year capex total (2015/16\$'000)
Improved Levels of Service	8,715	6,475
Growth	131,645	121,145
Renewals	53,080	35,880
<b>Total</b>	<b>193,440</b>	<b>163,500</b>



**Figure 3: Wingecarribee Shire Council sewerage 30-year capital works program**

The timing and expenditure for the 30-year sewerage capital works program (including backlog works) covered by the DSP is shown in Figure 3: Wingecarribee Shire Council . Details of the 30 years sewerage capital works program are included in Appendix D.

Timing of works and expenditure are to be reviewed and updated when required. Capital cost for growth planned within the next 20 years is included while the reticulation is excluded in the capital charges calculation in this DSP. The Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2002) recommend that capital works for renewals and for improving standards of service are to be excluded from the capital charges calculation.

**Sewerage reticulation**

Reticulation is defined as the local pipes connecting sewerage service from individual properties. Reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of sewerage service reticulation works within subdivisions. However, LWUs may calculate a reticulation supplement which would be payable by developers that have not provided the reticulation assets.

## 5 Levels of service

Water supply and sewerage system design capacity and operation are based on providing the adopted levels of service (LOS). Wingecarribee Shire Council's levels of service for water supply and sewerage services are shown in the following tables.

**Table 8: Wingecarribee Shire Council water supply level of service**

Service Attribute	Service Objective	Performance Measure Process
<b>COMMUNITY LEVELS OF SERVICE</b>		
Quality	Council will endeavour to ensure water supplied is in compliance with the physical and chemical parameters of Australian Drinking Water Guideline and is free from objectionable taste and odour	<ul style="list-style-type: none"> <li>▪ Customer surveys and analysis of customer complaints.</li> <li>▪ Microbiological and Chemical water sampling</li> <li>▪ 'Department of Primary Industries (DPI) Water' performance reporting</li> </ul>
	Eliminate the need for "boil water alerts" through providing appropriate water supply and treatment infrastructure and carrying out the necessary operation and maintenance activities	<ul style="list-style-type: none"> <li>▪ Number of boil water alerts issued in performance reporting period. ('DPI Water' performance reporting.)</li> <li>▪ Operational and Maintenance plans implemented</li> </ul>
	Maintains effective disinfection within the water distribution system (including a minimum free chlorine residual of 0.2mg/L)	<ul style="list-style-type: none"> <li>▪ Percentage of samples satisfying the minimum free residual chlorine levels water network sampling</li> </ul>
Function	<p>Pressure</p> <p>Provide pressures between 12 and 90m head of water in the reticulation system whilst conveying a minimum of 6 litres per minute per residential connection under normal conditions</p>	<ul style="list-style-type: none"> <li>▪ Percentage of connections complying with pressure and flow requirements. (Network modelling)</li> </ul>
	<p>Response times to;</p> <p>Rectification of system failures (Time to have staff on site to commence rectification after notification)</p> <p>Priority 1 - defined as failure to maintain continuity or quality of supply to a large number of customers or to a critical use at a critical time.</p> <ul style="list-style-type: none"> <li>▪ 1 hour (during working hours)</li> <li>▪ 2 hours (after working hours)</li> </ul> <p>Priority 2 - defined as failure to maintain continuity or quality of supply to a small number of customers or to a critical user at a non-critical time.</p> <ul style="list-style-type: none"> <li>▪ 3 hour (during working hours)</li> <li>▪ 4 hours (after working hours)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Customer surveys</li> <li>▪ Develop Conquest system to report time of request / failure and time onsite.</li> </ul>

Service Attribute	Service Objective	Performance Measure Process
	<p><i>Priority 3</i> - defined as failure to maintain continuity or quality of supply to a single customer.</p> <ul style="list-style-type: none"> <li>▪ One working day</li> </ul> <p><i>Priority 4</i> - defined as a minor problem or complaint which can be dealt with at a time convenient to the customer and the water authority.</p> <ul style="list-style-type: none"> <li>▪ Within 2 weeks</li> </ul>	
	<p>Catastrophe</p> <p>Any situation of this nature would prompt immediate action involving senior personnel and emergency services with the aim of containing and resolving the situation as quickly as possible</p>	
	<p>Interruptions to supply</p> <p>Planned – Domestic customers will receive 24 hours written notice and industrial customers will receive 7 days' written notice.</p> <p>Unplanned – Not to occur more than six times per year and not to last longer than 12 hours.</p>	<ul style="list-style-type: none"> <li>▪ Develop process for planned interruptions and include notification requirements</li> <li>▪ Develop Conquest system to report unplanned incidents and duration of interruption.</li> </ul>
	<p>Customer complaints and inquiries of a general nature will be responded to:</p> <ul style="list-style-type: none"> <li>▪ Written complaint or inquiry within 10 working days</li> <li>▪ Personal complaint or inquiry within one working day</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conquest requests system report</li> <li>▪ Random checking of recorded requests</li> </ul>
Capacity/ Utilisation	Water restrictions will be kept to a minimum	<ul style="list-style-type: none"> <li>▪ Restrictions should not be applied for more than 5% of the time / year</li> </ul>
	Provide more than 90% of peak day demand.	<ul style="list-style-type: none"> <li>▪ Water Network Modelling Analysis</li> </ul>
	Water for Fire Fighting will be available from reticulation fire hydrants for firefighting at a minimum flow of 10l/s 15m residual pressure	<ul style="list-style-type: none"> <li>▪ Fire hydrants installed at 60m intervals in urban areas and 140m in rural areas.</li> <li>▪ Water network modelling analysis</li> </ul>
<b>TECHNICAL LEVELS OF SERVICE</b>		
Operations	Operation of Water Assets to ensure compliance with Australian Drinking Water Guidelines	<ul style="list-style-type: none"> <li>▪ Operational activities are undertaken as per operational manuals / operational plans and Australian Drinking Water Guidelines</li> <li>▪ Operational tasks recorded and tracked in Conquest Maintenance Management System</li> </ul>
Maintenance	To maintain assets to ensure they meet the required service standard	<ul style="list-style-type: none"> <li>▪ Water Treatment Plant preventative maintenance program implemented</li> <li>▪ Reticulation preventative maintenance program implemented</li> </ul>



Service Attribute	Service Objective	Performance Measure Process
Renewal	To renew assets to meet demand and agreed levels of service	<ul style="list-style-type: none"> <li>▪ 10 year capital works plan completed</li> <li>▪ Annual Asset renewals completed</li> </ul>
Upgrade/New	To upgrade and construct new assets to meet demand and agreed levels of service	<ul style="list-style-type: none"> <li>▪ 10 year capital works plan completed</li> <li>▪ Annual Asset upgrade / construction works completed</li> </ul>

**Table 9: Wingecarribee Shire Council sewerage level of service**

Service Attribute	Service Objective	Performance Measure Process
<b>COMMUNITY LEVELS OF SERVICE</b>		
Quality	Council will use its best endeavours to ensure safe and sustainable sewerage collection and disposal, as outlined by industry standards	<ul style="list-style-type: none"> <li>• Customer surveys</li> <li>• Nutrient and pathogen effluent sampling (EPA licences)</li> <li>• Public Health Incidents – ‘Department of Primary Industries (DPI) Water’ performance reporting</li> </ul>
Function	Frequency of system failures	<ul style="list-style-type: none"> <li>▪ Recorded chokes and overflow (‘DPI Water’ performance report)</li> </ul>
	Response times to system failures (Time to have staff on site to commence rectification after notification) <i>Priority 1</i> - defined as “major failure to contain sewage within the sewer system or any problem affecting a critical user at a critical time”. <ul style="list-style-type: none"> <li>▪ 1 hour (during working hours)</li> <li>▪ 2 hours (after working hours)</li> </ul> <i>Priority 2</i> - defined as ‘minor failure to contain sewage within the sewer system or any problem affecting a critical user at a non-critical time’. <ul style="list-style-type: none"> <li>▪ 3 hour (during working hours)</li> <li>▪ 4 hours (after working hours)</li> </ul> <i>Priority 3</i> - defined as ‘minor failure to contain sewage affecting a property or as bad odours’. <ul style="list-style-type: none"> <li>• One working day</li> </ul>	<ul style="list-style-type: none"> <li>▪ Customer surveys and associated analysis</li> <li>▪ Develop Conquest system to report time of request / failure and time onsite.</li> </ul>
	Customer complaints & inquiries of a general nature will be responded to: <ul style="list-style-type: none"> <li>▪ Written complaint or inquiry within 10 working days</li> <li>▪ Personal complaint or inquiry within one working day</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conquest requests system report</li> <li>▪ Random checking of Dataworks requests</li> </ul>
	Odour	<ul style="list-style-type: none"> <li>▪ NOW performance reporting</li> </ul>

<b>Service Attribute</b>	<b>Service Objective</b>	<b>Performance Measure Process</b>
Capacity/ Utilisation	Availability of Service: Council provide sewage collection and disposal services to local community	<ul style="list-style-type: none"> <li>▪ Extent of area serviced within the defined service area. NOW performance report</li> </ul>
<b>TECHNICAL LEVELS OF SERVICE</b>		
Operations	Operation of Sewer Assets to ensure compliance with Environmental Protection Agency licence requirements	<ul style="list-style-type: none"> <li>▪ Operational activities are undertaken as per operational manuals / operational plans and Environmental Protection Agency licence requirements</li> </ul>
Maintenance	To maintain assets to ensure they meet the required service standard	<ul style="list-style-type: none"> <li>▪ STP preventative maintenance program implemented</li> <li>▪ Reticulation preventative maintenance program implemented</li> </ul>
Renewal	To renew assets to meet demand and agreed levels of service	<ul style="list-style-type: none"> <li>▪ Annual Asset renewal projects completed</li> <li>▪ Assets are maintained in a condition 3 or better</li> </ul>
Upgrade/New	To upgrade and construct new assets to meet demand and agreed levels of service	<ul style="list-style-type: none"> <li>▪ Annual Asset upgrade / construction projects completed</li> </ul>

## 6 Design parameters

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### 6.1 Water supply

Investigation and design of water supply system components are based on the following technical documentations:

- Wingecarribee Shire Council's levels of service (Refer to Section 5)
- Water Supply Investigation Manual, NSW Public Works (1986)
- WSAA water supply code of Australia – WSA 03 2002

### 6.2 Sewerage

Investigation and design of sewerage system components are based on the following technical documentations:

- Wingecarribee Shire Council's levels of service (Refer to Section 5)
- Manual of Practice: Sewer Design (1984)
- Manual of Practice: Sewage Pumping Station Design (1986)
- WSAA Sewerage Code of Australia – WSA 02-2002
- WSAA Pressure Sewerage Code of Australia – WSA 07 – 2007

## 7 Developer charges calculation methodology

### 7.1 Developer charge concept

The developer charges (DC) calculation methodology is based on the net present value (NPV) approach with a view to fully recover the capital cost invested for servicing a development area. The investment is recovered as the up-front developer charges and the net income over time from the annual bills/ charges.

The calculation of developer charges is a two-step process. First, the capital charge is calculated as the present value of the capital cost of assets required over time to service the development area. The capital charge will include the capital cost component that will be recovered through annual bills, which needs to be reduced from the calculated capital charge. Hence, the second step is to calculate the reduction amount, which is the present value of the expected annual charges over time to be paid by the development in excess of operation, maintenance and administration (OMA) costs i.e. net income from annual bills.

The developer charge per equivalent tenement is defined as the capital charge less the reduction amount.

$$\text{Developer Charge (\$/ ET)} = \text{Capital Charge (\$/ET)} - \text{Reduction Amount (\$/ET)}$$

### 7.2 Capital charge

The calculated capital charge represents the efficient capital cost of assets used in providing water supply and sewerage services in the DSP areas. This includes the cost of both existing and future assets per equivalent tenement (ET) to be used to service the DSP areas.

Generally, the capacity of a water supply or sewerage asset would not be fully utilised until some years after construction of the asset. The calculation takes into account the time to full take-up the capacity of an asset over the planning horizon (30 years).

The Return on Investment (ROI) is based on the cost of early investment and the recovery of the investment over time. The annual payments have to provide a return of investment to reflect the discounting of future payments.

In accordance with IPART’s Determination 9, 2000, the ROI is calculated using the discount rates in Table 10.

**Table 10: Discount rates used in capital charge calculation**

Assets	Discount rate
Pre-1996 assets	3% pa
Post 1996 assets	7% pa

### 7.3 Exemption

The assets groups included and excluded from the capital charges calculations are shown in Table 11

**Table 11: Assets included and excluded in capital charges calculations**

<b>Group</b>	<b>Capital charge calculation inclusion</b>
Existing assets	Assets commissioned after 1970 with some exceptions are included
Future assets (growth)	Assets planned for growth within the next 20 years are included
<b>Group</b>	<b>Capital charge calculation exclusion</b>
Reticulation (existing and future)	Reticulation assets are excluded from the calculation of developer charges
Existing assets	Assets commissioned prior to 1970 are excluded
Future assets	Assets renewals within the next 20 years are excluded
Assets for out-of-sequence development	Excluded. However, include if the developer is required to meet the full capital cost of such assets initially.

## 7.4 Reduction amount

The reduction amount is the amount by which the capital charge is reduced to arrive at the developer charge. The reduction amount represents the portion of the efficient cost of assets LWUs expect to recover from the new developments as part of their future annual bills for the service provision in the DSP areas.

Council has adopted the NPV of annual bills method to calculate the reduction amount. The reduction amount has been calculated using the NPV for 30 years of the future net income from the annual charge (annual bills less OMA cost) per PV of new ETs.

## 8 Water supply developer charge

### 8.1 Water supply capital charge and agglomeration

When the capital charges for two or more service areas are within 30%, they can be agglomerated into a single DSP area. Council operates both the Wingecarribee and Bundanoon water supply schemes in an integrated manner and hence the areas serviced by these scheme as a single DSP area. The water supply capital charge has been calculated accordingly, and hence does not involve any capital charges agglomeration. The capital charges for the area covered by this DSP are as follows:

**Table 12: Water supply capital charge**

Water supply Service Area	Capital charge (2015/16 \$ per ET)	Percentage of highest capital charge DSP Area	Agglomerated DSP area	Weighted average capital charges (2015/16\$ per ET)
Wingecarribee	12,711	100%	Water Supply DSP Area 1	12,711

### 8.2 Water supply developer charge

Developer charge is capital charge less the reduction amount. The capital charge and reduction amount calculations are shown in Table 12 and Table C4 of Appendix C. The calculated water supply developer charge in 2015/16\$ is presented below in Table 13.

**Table 13: Water supply developer charge**

Water supply DSP area	Weighted average capital charges (2015/16\$ per ET)	Reduction amount (2015/16\$ per ET)	Developer charge (2015/16\$ per ET)
Wingecarribee Shire Water Supply DSP area	12,711	2,228	10,483

After adjustment for CPI of 1.84% for Sydney during 2016/17, the calculated water supply developer charge from 1<sup>st</sup> July 2017 is:

Water supply service	Developer charge 2016/17 (\$ per ET)
Wingecarribee Shire Water Supply DSP area	\$10,676

## 9 Sewerage developer charge

### 9.1 Sewerage capital charge and agglomeration

The calculated sewerage capital charges for the six services areas of Wingecarribee Shire Council are presented in the Table 14. When the capital charges for two or more service areas are within 30%, they can be agglomerated into a single DSP area. Also, in accordance with the DPI Water Circular LWU 5 dated 25 October 2004, local water utilities may agglomerate all of its DSP areas to calculate average developer charges. For the purpose of this DSP, Wingecarribee Shire Council has agglomerated all the sewerage service areas covered by this DSP and calculated the weighted average capital charge as presented in the Table 14.

**Table 14: Sewerage capital charge**

Sewerage Service Area	Capital charge (2015/16 \$ per ET)	Percentage of highest capital charge DSP Area	Agglomerated DSP area	Weighted average capital charges (2015/16 \$ per ET)
Bundanoon	24,551	100	Wingecarribee Sewerage DSP Area	14,849
Berrima	19,109	78		
Moss Vale	17,666	72		
Bowral	14,941	61		
Robertson	14,373	59		
Mittagong	10,896	44		

### 9.2 Sewerage developer charge

Developer charge is capital charge less the reduction amount. The capital charge and the reduction amount calculations are included in Table 14 and Table D4 of Appendix D. The Wingecarribee Shire calculated sewerage developer charge in 2015/16 \$ is presented in Table 15.

**Table 15: Sewerage developer charge**

Sewerage DSP area	Weighted average capital charges (2015/16 \$ per ET)	Reduction amount (2015/16\$ per ET)	Developer charge (2015/16\$ per ET)
Wingecarribee Shire Sewerage DSP Area	14,849	4,686	10,163

After adjustment for CPI of 1.84% for Sydney during 2016/17, the calculated sewerage developer charge from 1<sup>st</sup> July 2017 is:

Sewerage service	Developer charge 2016/17 (\$ per ET)
Wingecarribee Shire Sewerage DSP Area	\$10,350

## 10 Reviewing or updating of calculated developer charges

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Developer charges are to be reviewed by Council every 5 years. The developer charges should be adjusted on the basis of movements in the Consumer Price Index (CPI) for Sydney in the preceding 12 months to December and excluding the impact of GST. Wingecarribee Shire Council being a general purpose Council, the developer charges will be indexed quarterly so as to match the indexing cycle of Council's Section 94 contribution plans.

If there is a major change such as the need for significant capital works that has not been included in the existing DSP, Council may carry out a review in less than five years, subject to DPI Water's approval.

## 11 Background document

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The background document and references used for the development of this DSP are contained in the following documents:

- Developer Charges Guidelines for Water Supply, Sewerage and Stormwater 2002, DPI Water
- NSW Water and Sewerage Strategic Business Planning Guidelines, DPI Water, July 2011
- Wingecarribee Shire Council Water Supply and Sewerage Strategic Business Plan
- Wingecarribee Shire Council Water Supply TBL Performance Report
- Wingecarribee Shire Council Sewerage TBL Performance Report

The background information of the water supply and sewerage developer charges calculations are included in Appendix C and Appendix D respectively. These background documents contain details on asset commission dates, asset size and specifications, MEERA valuation, 30-years capital works programs, assets' current and future capacities. They also include the details of calculations of the capital charges, reduction amount and developer charges.

## 12 Other DSPs and related contribution plans

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Wingecarribee Shire Council Development Control Plan



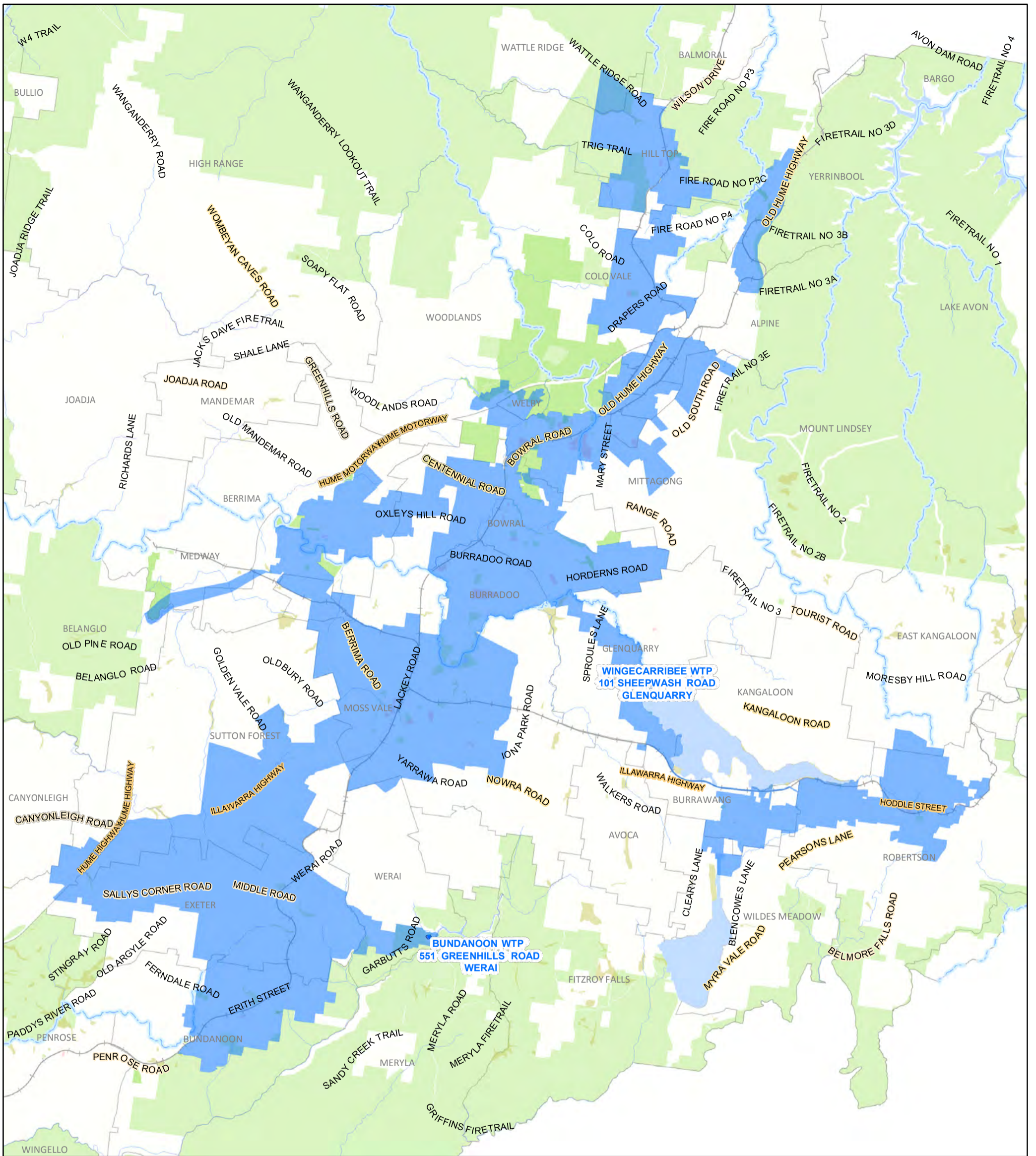
## Glossary

Glossary of Terms	
<b>Annual bill</b>	Local Water Utility's annual water and sewerage bill for an annual demand of 1 ET
<b>Asset</b>	An asset (or part of an asset) including land and headworks assets that directly provides, or will provide, the developer services to developments within the DSP area for which the Developer Charge is payable
<b>ADWF</b>	Average dry weather flow. One of the design parameters for flow in sewers
<b>Annual demand</b>	The total water demand over a year. Used to size headworks components
<b>Capital cost</b>	The Present Value (MEERA basis) of all expenditure on assets used to service the development
<b>Capital charge</b>	Capital cost of assets per ET adjusted for commercial return on investment (ROI)
<b>CPI</b>	Consumer price index
<b>CRC</b>	Current replacement cost
<b>Developer charge</b>	Charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development
<b>Development area</b>	See DSP area
<b>Discount rate</b>	The rate used to calculate the present value of money arising in the future
<b>DPI Water</b>	Department of Primary Industries Water
<b>DSP</b>	Development Servicing Plan
<b>DSP area</b>	That is part of a water utility's area covered by a particular Development Servicing Plan. Also referred to as Development Area
<b>EP</b>	Equivalent Persons (or equivalent population). Used as a design parameter for loadings of sewage treatment works
<b>ET</b>	Equivalent tenement. The annual demand a detached residential dwelling will place on the infrastructure in terms of the water consumption or sewage discharge
<b>GWCC</b>	Goldenfields Water County Council
<b>LWU</b>	Local water utility (NSW). Excludes Sydney Water Corporation, Hunter Water Corporation, Gosford Council, Wyong Council, Essential Water and Fish River Water Supply
<b>MEERA</b>	Modern Equivalent Engineering Replacement Asset
<b>Net income</b>	Annual bill minus OMA cost per ET
<b>NPV</b>	Net present value means the difference between the Present Value of a revenue stream and the Present Value of a cost stream
<b>OMA</b>	Operation, maintenance and administration (cost)

<b>Glossary of Terms</b>	
<b>Operating cost</b>	In relation to a DSP is the operation, maintenance and administration cost (excluding depreciation and interest) of a LWU in providing Customer services to a DSP area
<b>Post 1996 asset</b>	An asset that was commissioned by a LWU on or after 1 January 1996 or that is yet to be commissioned
<b>Pre-1996 asset</b>	An asset that was commissioned by a LWU before 1 January 1996
<b>PV</b>	Present value. The current value of future money or ETs
<b>Reduction amount</b>	The amount by which the capital charge is reduced to arrive at the developer charge. This amount reflects the capital contribution that will be paid by the occupier of a development as part of future annual bills
<b>Reticulation assets</b>	Reticulation is defined as the local pipes connecting water supply and sewerage service for individual properties. Reticulation assets are excluded from the calculation of developer charges as the developers are responsible for the full cost of the design and construction of sewerage reticulation works within subdivisions
<b>ROI</b>	Return on investment. Represents the income that is, or could be, generated by investing money
<b>Service area</b>	An area serviced by a separate water supply system, an area served by a separate STW, a separate small town or village, or a new development of over 500 ETs
<b>STP</b>	Sewage treatment plant
<b>TRB</b>	Typical residential bill, which is the principal indicator of the overall cost of a water supply or sewerage system and is the bill paid by a residential customer using the utility's average annual residential water supplied per connected property
<b>WTP</b>	Water treatment plant

# Appendix A Water supply DSP service areas

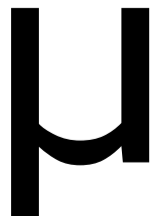
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## Water Supply Coverage Map Wingecarribee Shire

### Legend

- Water Coverage Area
- Railway Lines
- Creeks
- Waterbodies
- Wetlands
- Parks, Reserves & Forests



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Scale 1:150,000

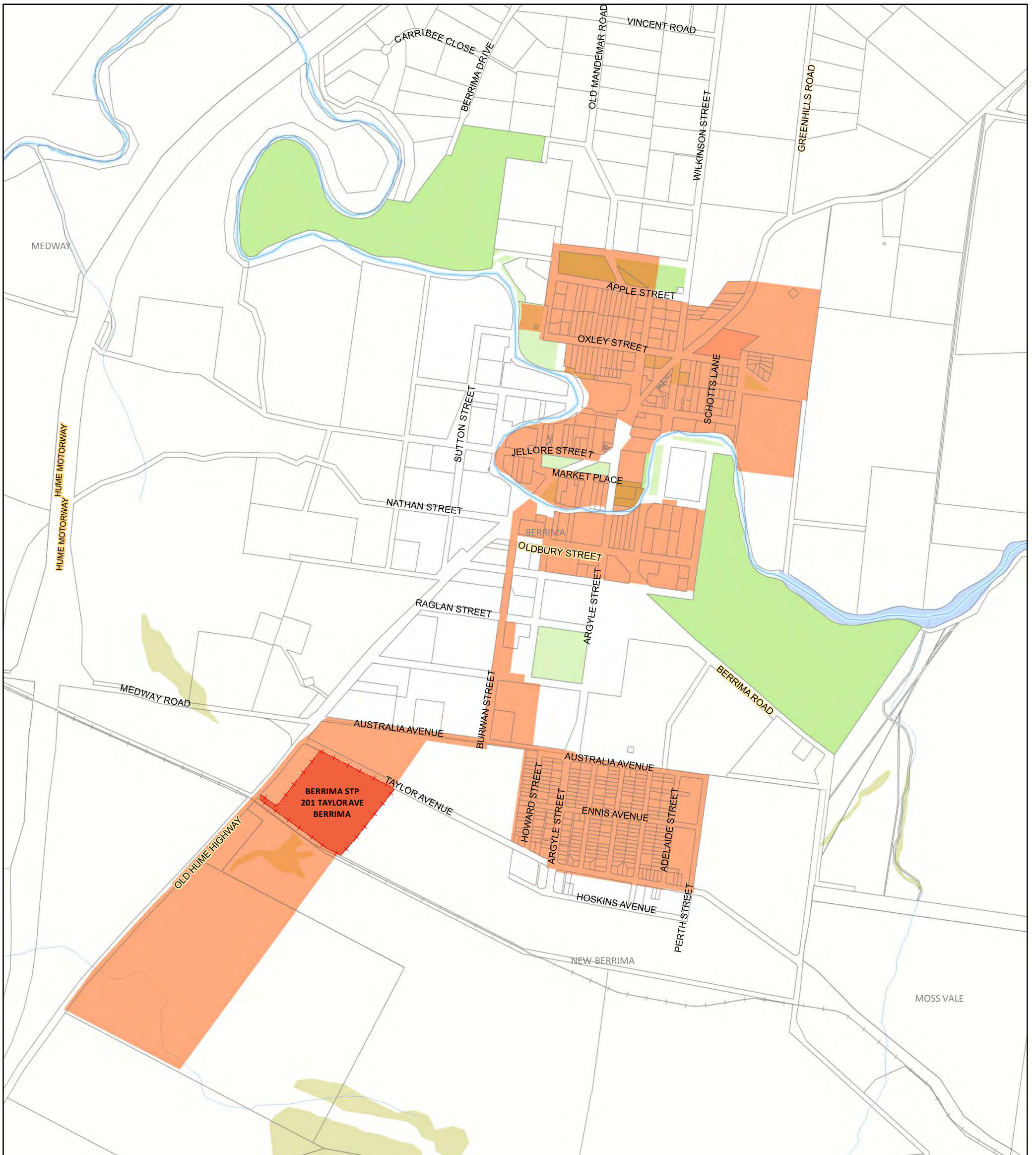
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# Appendix B Sewerage DSP service areas

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## Sewer Coverage Map Berrima Scheme

### Legend

- Sewer Coverage Area
- Railway Lines
- Creeks
- Waterbodies
- Wetlands
- Parks, Reserves & Forests



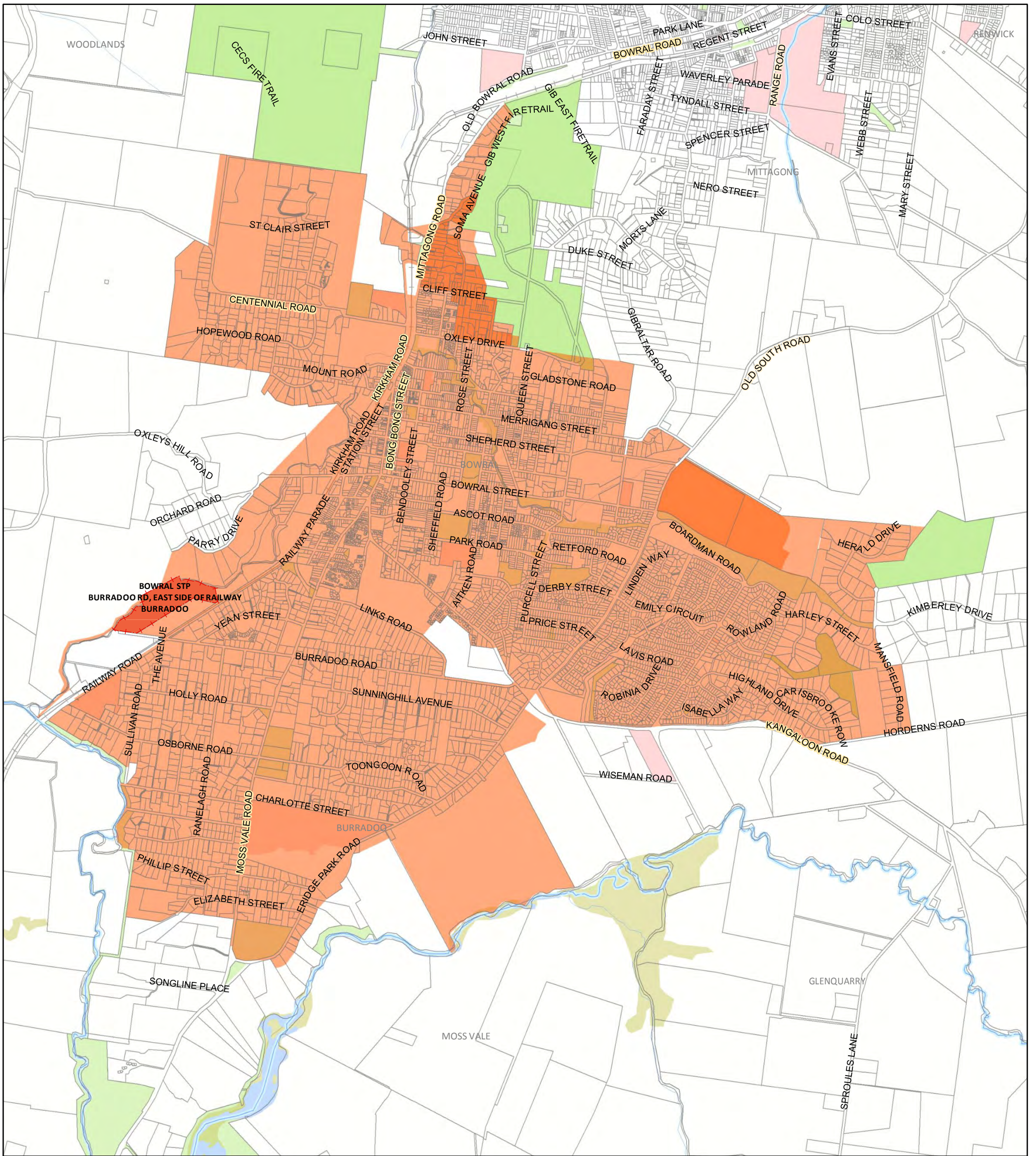
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## Sewer Coverage Map Bowral Scheme

### Legend

-  Sewer Coverage Area
-  Railway Lines
-  Creeks
-  Waterbodies
-  Wetlands
-  Parks, Reserves & Forests



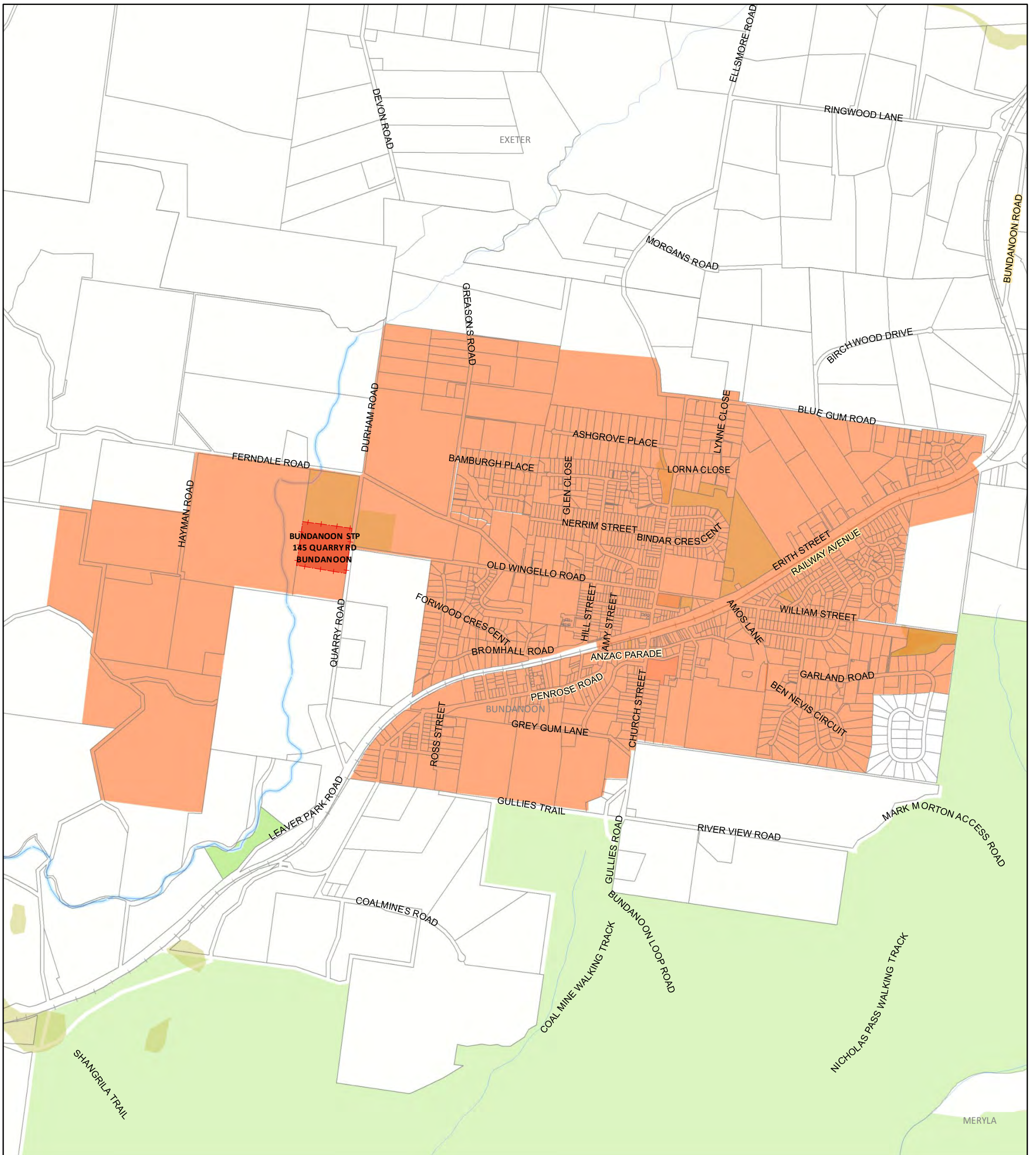
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## Sewer Coverage Map

### Bundanoon Scheme

#### Legend

-  Sewer Coverage Area
-  Railway Lines
-  Creeks
-  Waterbodies
-  Wetlands
-  Parks, Reserves & Forests



0 135 270 540 810 1,080 Metres

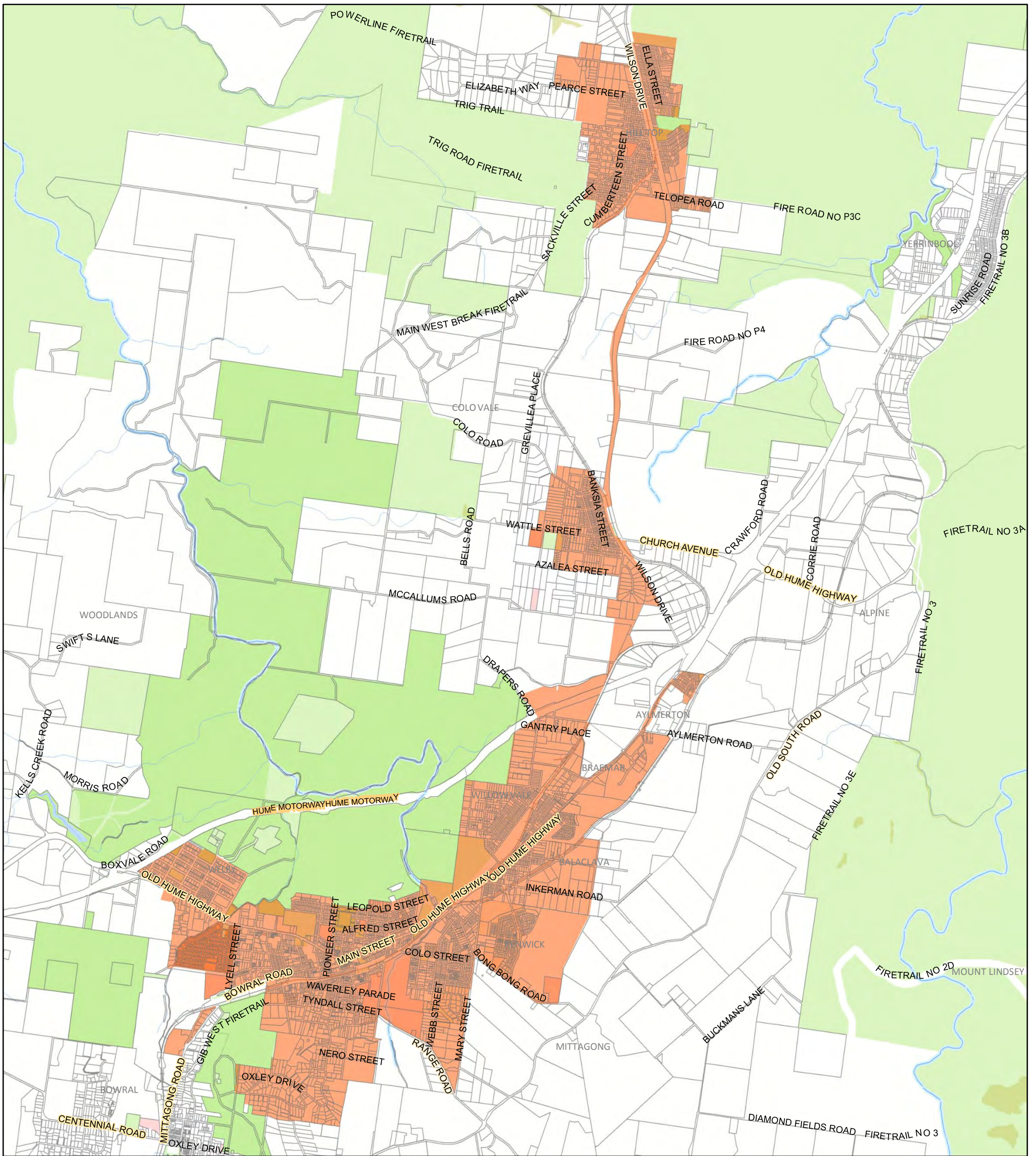
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## Sewer Coverage Map Mittagong Scheme

### Legend

- Sewer Coverage Area
- Railway Lines
- Creeks
- Waterbodies
- Wetlands
- Parks, Reserves & Forests



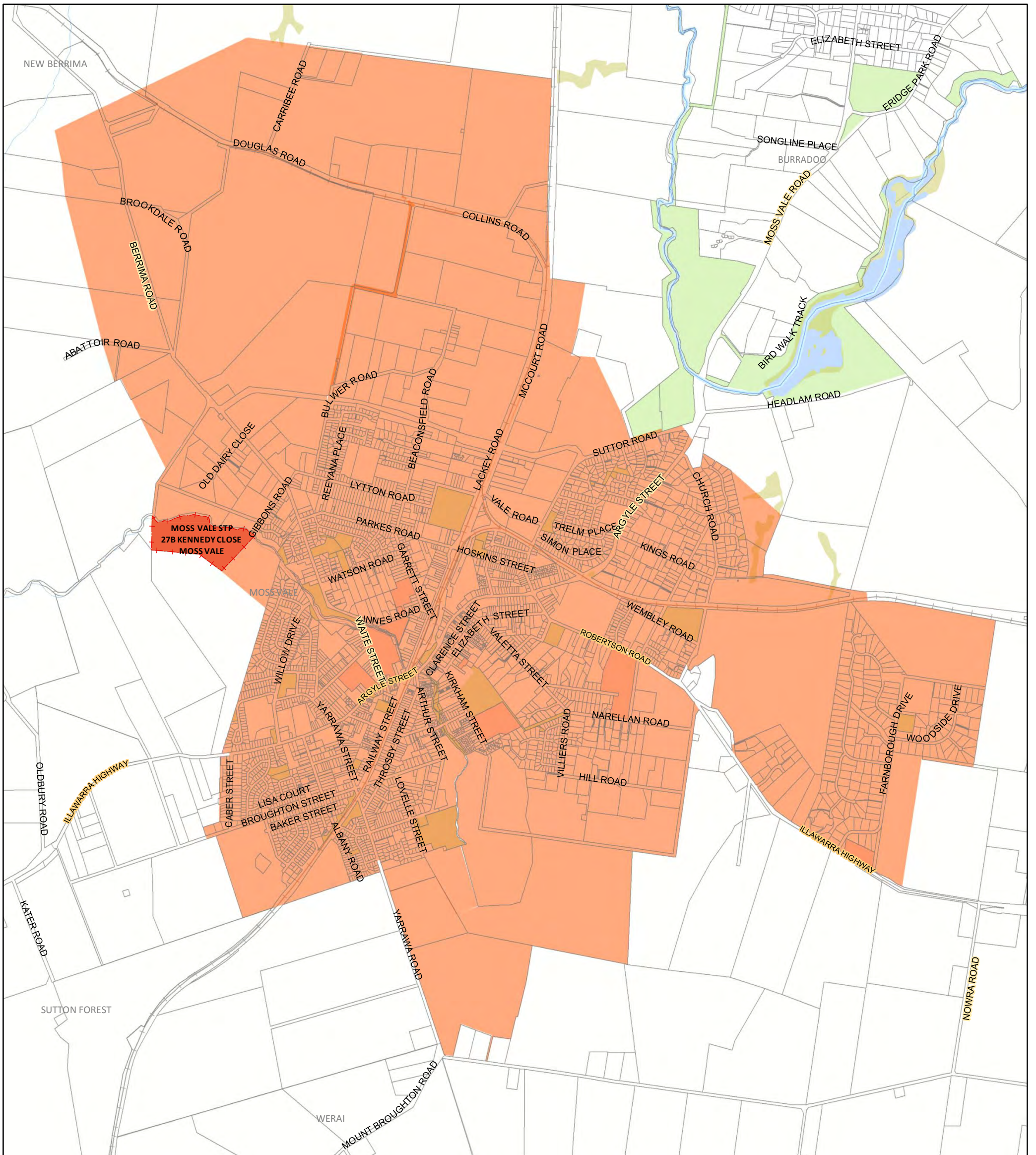
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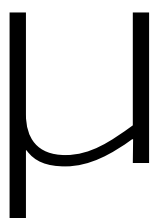
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## Sewer Coverage Map Moss Vale Scheme

### Legend

- Sewer Coverage Area
- Railway Lines
- Creeks
- Waterbodies
- Wetlands
- Parks, Reserves & Forests



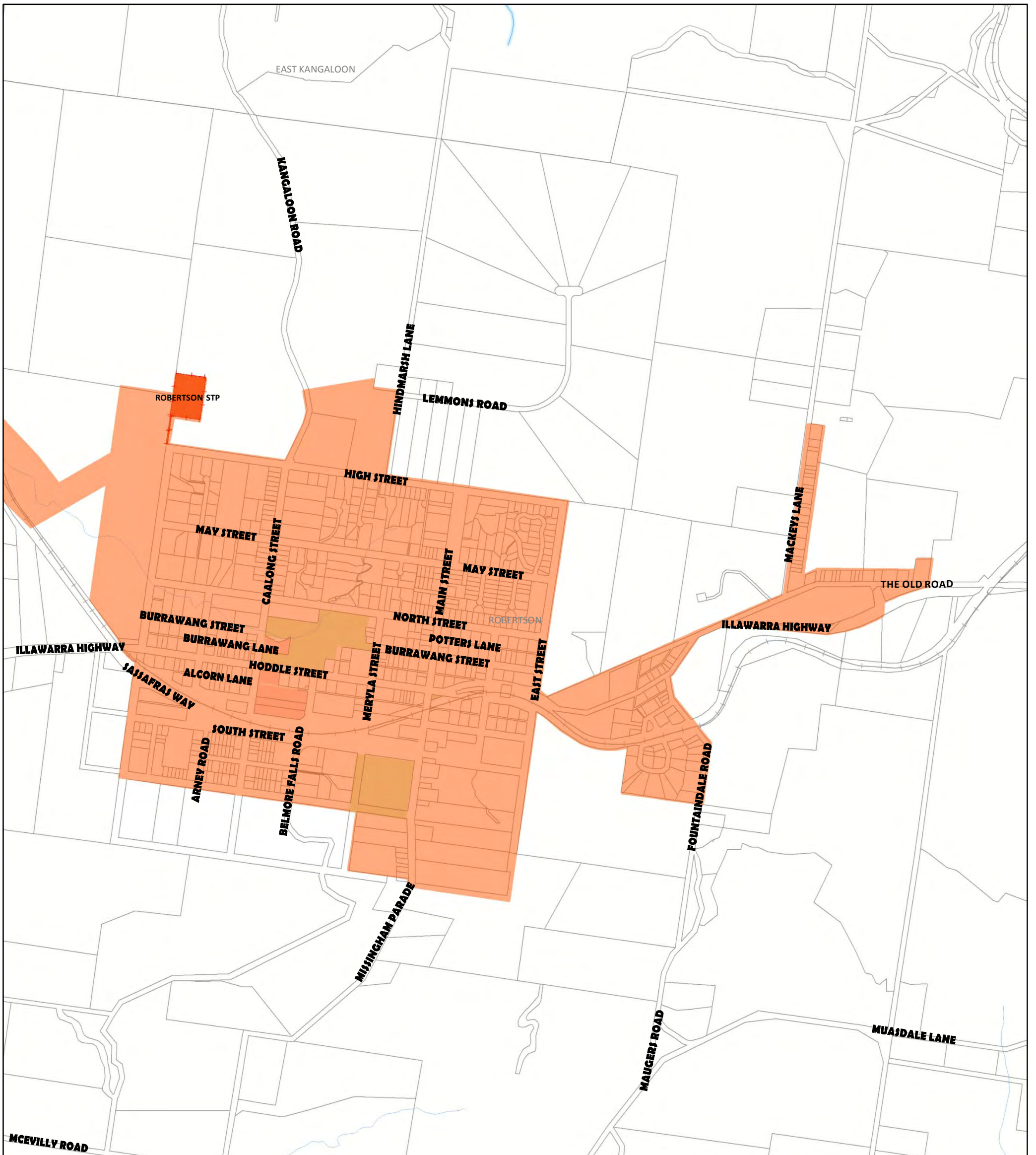
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Scale 1:25,000

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## Sewer Coverage Map Robertson Scheme

### Legend

-  Railway Lines
-  Creeks
-  Waterbodies
-  Wetlands
-  Parks, Reserves & Forests



0 100 200 400 600 800 Metres

Scale 1:15,000

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# Appendix C Water supply DSP background document

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Table 3: Wingecarribee Shire Council Water Supply Capital Chargers Calculations

Discount Rate:	ROI Before	1996	3%
	ROI After	1996	7%

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (2015/16\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>WINGECARRIBEE</b>		Percentage of capital works utilised by new ETs after 1996:			41%									
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1970	1996	\$ 8,617,840			\$ 3,528,107	3%	1.00	\$ 3,528,107						
Assets commissioned in 1971	1996	\$ 7,039,160			\$ 2,881,802	3%	1.00	\$ 2,881,802						
Assets commissioned in 1972	1996	\$ 538,547			\$ 220,479	3%	1.00	\$ 220,479						
Assets commissioned in 1973	1996	\$ 1,048,792			\$ 429,371	3%	1.00	\$ 429,371						
Assets commissioned in 1974	1996	\$ 669,479			\$ 274,082	3%	1.00	\$ 274,082						
Assets commissioned in 1975	1996	\$ 1,763,745			\$ 722,070	3%	1.00	\$ 722,070						
Assets commissioned in 1976	1996	\$ 854,573			\$ 349,858	3%	1.00	\$ 349,858						
Assets commissioned in 1977	1996	\$ 583,680			\$ 238,956	3%	1.00	\$ 238,956						
Assets commissioned in 1978	1996	\$ 4,611,960			\$ 1,888,117	3%	1.00	\$ 1,888,117						
Assets commissioned in 1979	1996	\$ 1,385,006			\$ 567,015	3%	1.00	\$ 567,015						
Assets commissioned in 1980	1996	\$ 4,650,781			\$ 1,904,010	3%	1.00	\$ 1,904,010						
Assets commissioned in 1981	1996	\$ 1,036,322			\$ 424,266	3%	1.00	\$ 424,266						
Assets commissioned in 1982	1996	\$ 12,978,851			\$ 5,313,486	3%	1.00	\$ 5,313,486						
Assets commissioned in 1983	1996	\$ 1,444,845			\$ 591,513	3%	1.00	\$ 591,513						
Assets commissioned in 1984	1996	\$ 1,836,120			\$ 751,700	3%	1.00	\$ 751,700						
Assets commissioned in 1985	1996	\$ 5,340,700			\$ 2,186,460	3%	1.00	\$ 2,186,460						
Assets commissioned in 1986	1996	\$ 22,430,466			\$ 9,182,937	3%	1.00	\$ 9,182,937						
Assets commissioned in 1987	1996	\$ 10,777,301			\$ 4,412,181	3%	1.00	\$ 4,412,181						
Assets commissioned in 1988	1996	\$ 2,178,760			\$ 891,975.11	3%	1.00	\$ 891,975						
Assets commissioned in 1989	1996	\$ 20,150,472			\$ 8,249,517	3%	1.00	\$ 8,249,517						
Assets commissioned in 1990	1996	\$ 1,935,934			\$ 792,563	3%	1.00	\$ 792,563						
Assets commissioned in 1991	1996	\$ 400,224			\$ 163,850	3%	1.00	\$ 163,850						
Assets commissioned in 1992	1996	\$ 2,239,257			\$ 916,742	3%	1.00	\$ 916,742						
Assets commissioned in 1993	1996	\$ 2,482,264			\$ 1,016,228	3%	1.00	\$ 1,016,228						
Assets commissioned in 1994	1996	\$ 2,686,165			\$ 1,099,705	3%	1.00	\$ 1,099,705						
Assets commissioned in 1995	1996	\$ 4,967,000			\$ 2,033,469	3%	1.00	\$ 2,033,469		15407				
<b>Subtotal (Assets Pre 1996)</b>		<b>\$ 124,648,243</b>			<b>\$ 51,030,459</b>			<b>\$ 51,030,459</b>						<b>\$ 6,967</b>
<b>Post 1996 - Current Assets</b>														
Assets commissioned in 1996	1996	\$ 3,131,814			\$ 1,282,151	7%	1.00	\$ 1,282,151		15568	161	161	161	
Assets commissioned in 1997	1997	\$ 1,552,898			\$ 635,750	7%	0.93	\$ 594,159		15731	163	158	152	
Assets commissioned in 1998	1998	\$ 1,588,933			\$ 650,502	7%	0.87	\$ 568,174		15895	164	155	144	
Assets commissioned in 1999	1999	\$ 1,634,080			\$ 668,985	7%	0.82	\$ 546,091		16061	166	152	136	
Assets commissioned in 2000	2000	\$ 3,554,637			\$ 1,455,253	7%	0.76	\$ 1,110,206		16229	168	149	128	
Assets commissioned in 2001	2001	\$ 974,000			\$ 398,752	7%	0.71	\$ 284,304		16399	170	146	121	
Assets commissioned in 2002	2002	\$ 1,679,353			\$ 687,520	7%	0.67	\$ 458,124		16570	171	144	114	
Assets commissioned in 2003	2003	\$ 1,292,737			\$ 529,241	7%	0.62	\$ 329,585		16744	173	141	108	
Assets commissioned in 2004	2004	\$ 1,308,517			\$ 535,701	7%	0.58	\$ 311,783		16919	175	138	102	
Assets commissioned in 2005	2005	\$ 1,033,953			\$ 423,296	7%	0.54	\$ 230,245		17095	177	136	96	
Assets commissioned in 2006	2006	\$ 2,018,265			\$ 826,269	7%	0.51	\$ 420,033		17274	179	133	91	
Assets commissioned in 2007	2007	\$ 3,895,398			\$ 1,594,759	7%	0.48	\$ 757,659		17455	181	130	86	
Assets commissioned in 2008	2008	\$ 2,870,470			\$ 1,175,158	7%	0.44	\$ 521,784		17637	182	128	81	
Assets commissioned in 2009	2009	\$ 6,417,238			\$ 2,627,190	7%	0.41	\$ 1,090,190		17821	184	126	77	
Assets commissioned in 2010	2010	\$ 2,190,623			\$ 896,832	7%	0.39	\$ 347,807		18008	186	123	72	
Assets commissioned in 2011	2011	\$ 2,503,875			\$ 1,025,076	7%	0.36	\$ 371,535		18196	188	121	68	
Assets commissioned in 2012	2012	\$ 2,034,382			\$ 832,867	7%	0.34	\$ 282,121		18582	186	123	72	
Assets commissioned in 2013	2013	\$ 2,770,805			\$ 1,134,356	7%	0.32	\$ 359,108		18976	186	123	72	
Assets commissioned in 2014	2014	\$ 2,372,136			\$ 971,142	7%	0.30	\$ 287,326		19379	186	123	72	
Assets commissioned in 2015	2015	\$ 1,136,967			\$ 465,469	7%	0.28	\$ 128,706		19791	186	123	72	
<b>Subtotal (Past 1996 - Current Assets)</b>		<b>\$ 45,961,081</b>			<b>\$ 18,816,271</b>			<b>\$ 10,281,091</b>						

ConstructionYear (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (2015/16\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ 2,036,500	\$ 833,734	7%	0.93	\$ 779,191		20212	421	409	394	
Assets commissioned in 2016 / 2017	2017		\$ -	\$ 6,067,500	\$ 2,484,009	7%	0.87	\$ 2,169,629		20333	121	114	106	
Assets commissioned in 2017 / 2018	2018		\$ -	\$ 8,390,000	\$ 3,434,830	7%	0.82	\$ 2,803,845		20456	122	112	100	
Assets commissioned in 2018 / 2019	2019		\$ -	\$ 5,205,000	\$ 2,130,905	7%	0.76	\$ 1,625,657		20579	123	109	94	
Assets commissioned in 2019 / 2020	2020		\$ -	\$ 4,692,500	\$ 1,921,089	7%	0.71	\$ 1,369,710		20702	124	107	88	
Assets commissioned in 2020 / 2021	2021		\$ -	\$ 5,017,500	\$ 2,054,143	7%	0.67	\$ 1,368,762		20827	125	104	83	
Assets commissioned in 2021 / 2022	2022		\$ -	\$ 6,580,000	\$ 2,693,824	7%	0.62	\$ 1,677,578		21085	258	209	160	
Assets commissioned in 2022 / 2023	2023		\$ -	\$ 5,440,000	\$ 2,227,113	7%	0.58	\$ 1,296,200		21345	261	206	152	
Assets commissioned in 2023 / 2024	2024		\$ -	\$ 1,987,500	\$ 813,674	7%	0.54	\$ 442,585		21609	264	202	144	
Assets commissioned in 2024 / 2025	2025		\$ -	\$ 3,257,500	\$ 1,333,607	7%	0.51	\$ 677,938		21876	267	199	136	
Assets commissioned in 2025 / 2026	2026		\$ -	\$ 1,285,500	\$ 526,278	7%	0.48	\$ 250,031		22147	271	195	129	
Assets commissioned in 2026 / 2027	2027		\$ -	\$ 1,576,000	\$ 645,208	7%	0.44	\$ 286,480		22382	235	165	104	
Assets commissioned in 2027 / 2028	2028		\$ -	\$ 3,264,000	\$ 1,336,268	7%	0.41	\$ 554,504		22619	237	162	99	
Assets commissioned in 2028 / 2029	2029		\$ -	\$ 1,289,500	\$ 527,916	7%	0.39	\$ 204,735		22859	240	159	93	
Assets commissioned in 2029 / 2030	2030		\$ -	\$ 1,292,500	\$ 529,144	7%	0.36	\$ 191,786		23102	243	156	88	
Assets commissioned in 2030 / 2031	2031		\$ -	\$ 1,293,000	\$ 529,349	7%	0.34	\$ 179,309		23347	245	153	83	
Assets commissioned in 2031 / 2032	2032		\$ -	\$ 1,207,500	\$ 494,345	7%	0.32	\$ 156,497		23548	201	121	63	
Assets commissioned in 2032 / 2033	2033		\$ -	\$ 1,707,500	\$ 699,043	7%	0.30	\$ 206,822		23750	202	119	60	
Assets commissioned in 2033 / 2034	2034		\$ -	\$ 3,350,000	\$ 1,371,476	7%	0.28	\$ 379,224		23954	204	116	56	
Assets commissioned in 2034 / 2035	2035		\$ -	\$ 9,210,000	\$ 3,770,535	7%	0.26	\$ 974,378		24159	206	114	53	
Assets commissioned in 2035 / 2036	2036		\$ -	\$ -	\$ -	7%	0.24	\$ -		24367	208	112	50	
Assets commissioned in 2036 / 2037	2037		\$ -	\$ -	\$ -	7%	0.23	\$ -		24544	177	93	40	
Assets commissioned in 2037 / 2038	2038		\$ -	\$ -	\$ -	7%	0.21	\$ -		24723	179	91	38	
Assets commissioned in 2038 / 2039	2039		\$ -	\$ -	\$ -	7%	0.20	\$ -		24903	180	89	35	
Assets commissioned in 2039 / 2040	2040		\$ -	\$ -	\$ -	7%	0.18	\$ -		25084	181	87	33	
Assets commissioned in 2040 / 2041	2041		\$ -	\$ -	\$ -	7%	0.17	\$ -		25267	183	85	31	
Assets commissioned in 2041 / 2042	2042		\$ -	\$ -	\$ -	7%	0.16	\$ -		25429	162	73	26	
Assets commissioned in 2042 / 2043	2043		\$ -	\$ -	\$ -	7%	0.15	\$ -		25592	163	71	25	
Assets commissioned in 2043 / 2044	2044		\$ -	\$ -	\$ -	7%	0.14	\$ -		25756	164	70	23	
Assets commissioned in 2044 / 2045	2045		\$ -	\$ -	\$ -	7%	0.13	\$ -		25921	165	68	22	
Assets commissioned in 2045 / 2046	2046		\$ -	\$ -	\$ -	7%	0.12	\$ -		26087	166	66	20	
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ 74,149,500</b>	<b>\$ 30,356,489</b>				<b>\$ 17,594,861</b>	Future ET total	6296	4134		
								<b>\$ 27,875,952</b>				<b>7325</b>	<b>4853</b>	<b>\$ 5,744</b>
											<b>TOTAL CAPITAL CHARGE PER ET</b>		<b>\$ 12,711</b>	

**Table 2: Wingecarribee Shire Council Water Supply Capital Works Program**

Current Year 2015 /16							CAPITAL WORKS IN 2015 \$'000																					
Project	Job Number	ILOS	GROWTH	New Works (Improv e LOS+ Growth )	RENEW	Total	2016/16	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		
<b>A- NEW WORKS - BACKLOG</b>																												
Balmoral Water Supply		100%		100%		4,600						400	400	600	3600													
Penrose /Wingello Water Supply		100%		100%		5,400					400	500	4500															
<b>B - NEW WORKS - GROWTH</b>																												
Mittagong/Wilow Vale Development			100%	100%		0																						
Master Plan (distribution -model output)			100%	100%		11,965		1140	4700	1975	100	1400	285	645	790	0	0	290	0	0	0	0	0	0	0	640	0	
2030 Capacity Upgrade - WTP			100%	100%		10,000																			500	1500	8000	
Private works, connections, extensions	714		100%	100%		4,500	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
New Meters and Connections	712/3		100%	100%		4,350	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Gib North to Wilow Vale Water Main Construction			100%	100%		1,100		1100																				
<b>C - NEW WORKS - SERVICE IMPROVEMENT / OTHER</b>																												
Dams (Component) upgrade	76844	100%		100%		900	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Wingecarribee W.T.P. - Improvements	76915	100%		100%		4,274	674	75	1500	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
Bundanoon W.T.P. - Improvements	76316/8/9	100%		100%		2,750	50	25	25	25	25	25	25	25	25	2000	25	25	25	25	25	25	25	25	25	25	25	
Nedaway W.T.P. - Improvements Pump	76845	100%		100%		10,340	25	0	1100	2065	3025	1550	25	25	25	25	25	2000	25	25	25	25	25	25	25	25	25	
Station - (Component) upgrade	76848	100%		100%		1,050	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Reservoirs - (Component) upgrade	76906	100%		100%		900	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Telemetry System upgrade	76850	100%		100%		580	20	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Total control system and starters at BWTP and control system for ch		100%		100%		1,200		1200																				
BWTP and WWTP clearwater tank baffles		100%		100%		1,000		1000																				
Oldbury Rd booster pump station	76928	100%		100%		0																						
<b>E - ASSET / COMPONENT RENEWAL</b>																												
Dams	76808/76814			0%	100%	1,200	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
Water Treatment Plants	76845		50%		70%	6,180	380	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Pump Stations	76930/76929		50%		70%	2,250	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
Reservoirs	76931		0%		100%	2,250	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
Water Mains	76946		50%		70%	25,790	800	1600	805	805	810	810	815	815	820	820	825	825	830	830	835	835	840	840	845	845		
Service Connections			0%		100%	1,450	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
Hydrants, Valves & PRVs			0%		100%	3,000	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Bulk Meters			0%		100%	780	30		30		30		30		30		30		30		30		30		30		30	
Water Meters	70916/17		50%		50%	2,551	300	200	30	30	30	30	30	30	30	200	201	202	203	204	205	206	30	30	30	30		
Backflow Prevention Devices					100%	200					50	50												50	50			
Plant Replacement	70115		50%		70%	6,000	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Lease Vehicle Replacement	70125				100%	1,800	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
Telemetry System					100%	300	200	100																				
<b>TOTAL</b>						<b>116,660</b>	<b>3,419</b>	<b>7,630</b>	<b>9,400</b>	<b>6,185</b>	<b>5,755</b>	<b>6,050</b>	<b>7,595</b>	<b>6,425</b>	<b>3,005</b>	<b>4,360</b>	<b>2,391</b>	<b>2,682</b>	<b>4,373</b>	<b>2,399</b>	<b>2,465</b>	<b>2,406</b>	<b>2,235</b>	<b>2,785</b>	<b>4,430</b>	<b>10,240</b>		

**Table Water - Calculation of Developer Charges using the NPV of Annual Charges Method  
Based on Input Reduction Amounts of ### /ET (2nd iteration)**

**Wingecarribee Shire Council - Water Supply**

Year	Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Year	Year	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	
<b>Developer Charges</b>																						
Year 1	2015/16																					
Base Year	2015/16																					
Average Capital Charges per ET (2015/16\$)		12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	12,711	
Inflation from Base year to Year 1 (%)		0.00%																				
Capital Charge (2015/16\$)		12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	12,710	
<b>Input Reduction Amounts (2015/16\$)</b>		<b>2,228</b>	<b>2,228</b>	<b>2,228</b>	<b>2,228</b>	<b>2,228</b>	<b>2,413</b>	<b>2,478</b>	<b>2,530</b>	<b>2,593</b>	<b>2,663</b>	<b>2,658</b>	<b>2,694</b>	<b>2,751</b>	<b>2,774</b>	<b>2,825</b>	<b>2,823</b>	<b>2,852</b>	<b>2,891</b>	<b>2,904</b>	<b>2,929</b>	
Developer Charge per ET (2015/16\$)		10,480	10,480	10,480	10,480	10,480	10,300	10,230	10,180	10,120	10,050	10,050	10,020	9,960	9,940	9,890	9,890	9,860	9,820	9,810	9,780	
Developer Charges per assessment- Residential (2015/16\$)		10,480	10,480	10,480	10,480	10,480	10,300	10,230	10,180	10,120	10,050	10,050	10,020	9,960	9,940	9,890	9,890	9,860	9,820	9,810	9,780	
Developer Charges per assessment- Non-Residential (2015/16\$)		10,480	10,480	10,480	10,480	10,480	10,300	10,230	10,180	10,120	10,050	10,050	10,020	9,960	9,940	9,890	9,890	9,860	9,820	9,810	9,780	
<b>Assessments &amp; ETs</b>																						
Residential Assessments at year end	2014/15	17,961	18,371	18,473	18,575	18,678	18,782	18,886	19,120	19,357	19,597	19,840	20,086	20,301	20,519	20,739	20,961	21,186	21,363	21,541	21,721	21,903
Non Residential Assessments at year end		1,829	1,803	1,822	1,842	1,862	1,882	1,903	1,926	1,950	1,974	1,998	2,023	2,042	2,062	2,082	2,102	2,123	2,146	2,170	2,194	2,218
Backlog Assessments at year end		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Assessments at year end		19,790	20,173	20,295	20,417	20,540	20,664	20,788	21,046	21,306	21,570	21,838	22,108	22,343	22,581	22,821	23,063	23,308	23,509	23,711	23,915	24,121
ET per Residential Assessment		1																				
ET per Non Residential Assessment		1																				
Total ETs		19,790	20,173	20,295	20,417	20,540	20,664	20,788	21,046	21,306	21,570	21,838	22,108	22,343	22,581	22,821	23,063	23,308	23,509	23,711	23,915	24,121
New ETs per year (excluding backlog)		-	383	121	122	123	124	125	258	261	264	267	271	235	237	240	243	245	201	202	204	206
Cumulative New ETs (excluding backlog)		-	383	505	627	750	874	998	1,256	1,516	1,780	2,048	2,318	2,553	2,791	3,031	3,273	3,518	3,719	3,921	4,125	4,331
<b>PV (new ETs excluding backlog) 30 years @ 7% pa</b>		-	2,806	2,621	2,704	2,791	2,884	2,982	3,086	3,056	3,020	2,978	2,929	2,873	2,852	2,827	2,797	2,762	2,722	2,727	2,730	2,732
<b>Revenue and Expenditure</b>																						
Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant																						
Revenue (\$'000) (2015/16\$)		10,807	10,858	10,924	10,982	11,056	11,124	11,284	11,419	11,588	11,731	11,891	12,023	12,152	12,291	12,443	12,572	12,702	12,803	12,917	13,042	
OMA Expenditure (\$'000) (2015/16\$)		8,197	7,933	7,966	7,937	7,940	7,972	7,944	7,955	8,021	7,896	7,916	7,966	7,958	8,009	8,000	8,021	8,073	8,065	8,087	8,138	
Revenue less OMA Expenditure (\$'000)		2,610	2,925	2,958	3,045	3,116	3,152	3,340	3,464	3,567	3,835	3,975	4,057	4,194	4,282	4,443	4,551	4,629	4,738	4,830	4,904	
Revenue less OMA Expenditure for new ETs (\$'000)		50	73	91	111	132	151	199	247	294	360	417	464	518	569	631	687	732	783	833	880	
<b>PV (Revenue less OMA Expenditure for new ETs) 30 years @ 7% pa (\$'000)</b>		<b>5,825</b>	<b>5,738</b>	<b>6,024</b>	<b>6,406</b>	<b>6,787</b>	<b>7,194</b>	<b>7,649</b>	<b>7,732</b>	<b>7,831</b>	<b>7,928</b>	<b>7,784</b>	<b>7,742</b>	<b>7,845</b>	<b>7,842</b>	<b>7,900</b>	<b>7,796</b>	<b>7,762</b>	<b>7,884</b>	<b>7,929</b>	<b>8,000</b>	
Output (calculated) Reduction Amounts		2,076	2,189	2,228	2,295	2,353	2,413	2,478	2,530	2,593	2,663	2,658	2,694	2,751	2,774	2,825	2,823	2,852	2,891	2,904	2,928.5	
Average Calculated Reduction for a 5 yr Period		2,228	2,228	2,228	2,228	2,228	2,413	2,478	2,530	2,593	2,663	2,658	2,694	2,751	2,774	2,825	2,823	2,852	2,891	2,904	2,928.5	
% Difference Between the Input and Output		0%																				

**Difference Less Than 2%, Calculation Complete  
Developer Charges for the first 5 years = \$10480 in year 2015/16 dollars**

**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	10,482	10,482	10,482	10,482	10,482	10,297	10,232	10,180	10,117	10,047	10,052	10,016	9,959	9,936	9,885	9,887	9,858	9,819	9,806	9,781
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# Appendix D Sewerage DSP background document

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**Table 3: Wingecarribee Shire Council Sewerage Capital Chargers Calculations**

Discount Rate:	ROI Before	1996	3%
	ROI After	1996	7%

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)	
<b>BERRIMA</b>		Percentage of capital works utilised by new ETs after 1996:				36%									
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1970	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1971	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1972	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1973	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1974	1996	\$ 2,925			\$ 1,040	3%	1.00	\$ 1,040							
Assets commissioned in 1975	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1976	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1977	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1978	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1979	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1980	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1981	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1982	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1983	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1984	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1985	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1986	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1987	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1988	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1989	1996	\$ 2,270,518			\$ 807,267	3%	1.00	\$ 807,267							
Assets commissioned in 1990	1996	\$ 5,517,456			\$ 1,961,694	3%	1.00	\$ 1,961,694							
Assets commissioned in 1991	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1992	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1993	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1994	1996	\$ -			\$ -	3%	1.00	\$ -							
Assets commissioned in 1995	1996	\$ -			\$ -	3%	1.00	\$ -							
<b>Subtotal (Assets Pre 1996)</b>		<b>\$ 7,790,900</b>			<b>\$ 2,770,002</b>				<b>\$ 2,770,002</b>		<b>466</b>			<b>\$ 15,201</b>	
<b>Post 1996 - Current Assets</b>															
Assets commissioned in 1996	1996	\$ -			\$ -	7%	1.00	\$ -		470	4	4	4		
Assets commissioned in 1997	1997	\$ -			\$ -	7%	0.93	\$ -		474	4	4	4		
Assets commissioned in 1998	1998	\$ 537,928			\$ 191,257	7%	0.87	\$ 167,051		479	4	4	4		
Assets commissioned in 1999	1999	\$ 25,931			\$ 9,220	7%	0.82	\$ 7,526		483	4	4	4		
Assets commissioned in 2000	2000	\$ -			\$ -	7%	0.76	\$ -		487	4	4	3		
Assets commissioned in 2001	2001	\$ 33,045			\$ 11,749	7%	0.71	\$ 8,377		492	4	4	3		
Assets commissioned in 2002	2002	\$ -			\$ -	7%	0.67	\$ -		496	4	4	3		
Assets commissioned in 2003	2003	\$ -			\$ -	7%	0.62	\$ -		501	4	4	3		
Assets commissioned in 2004	2004	\$ 72,776			\$ 25,875	7%	0.58	\$ 15,060		505	5	4	3		
Assets commissioned in 2005	2005	\$ -			\$ -	7%	0.54	\$ -		510	5	4	2		
Assets commissioned in 2006	2006	\$ -			\$ -	7%	0.51	\$ -		515	5	3	2		
Assets commissioned in 2007	2007	\$ 33,685			\$ 11,976	7%	0.48	\$ 5,690		519	5	3	2		
Assets commissioned in 2008	2008	\$ 28,690			\$ 10,200	7%	0.44	\$ 4,529		524	5	3	2		
Assets commissioned in 2009	2009	\$ 263,444			\$ 93,666	7%	0.41	\$ 38,868		529	5	3	2		
Assets commissioned in 2010	2010	\$ 65,613			\$ 23,328	7%	0.39	\$ 9,047		533	5	3	2		
Assets commissioned in 2011	2011	\$ 81,454			\$ 28,960	7%	0.36	\$ 10,497		538	5	3	2		
Assets commissioned in 2012	2012	\$ 111,283			\$ 39,566	7%	0.34	\$ 13,402		543	5	3	2		
Assets commissioned in 2013	2013	\$ 45,628			\$ 16,223	7%	0.32	\$ 5,136		548	5	3	2		
Assets commissioned in 2014	2014	\$ 153,240			\$ 54,483	7%	0.30	\$ 16,120		553	5	3	1		
Assets commissioned in 2015	2015	\$ 25,140			\$ 8,939	7%	0.28	\$ 2,472		553	0	0	0		
<b>Subtotal (Past 1996 - Current Assets)</b>		<b>\$ 1,477,855</b>			<b>\$ 525,441</b>				<b>\$ 303,773</b>						

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ -	\$ -	7%	0.93	\$ -		553	0	0	0	
Assets commissioned in 2016 / 2017	2017		\$ -	\$ -	\$ -	7%	0.87	\$ -		559	6	6	5	
Assets commissioned in 2017 / 2018	2018		\$ -	\$ -	\$ -	7%	0.82	\$ -		565	6	5	5	
Assets commissioned in 2018 / 2019	2019		\$ -	\$ -	\$ -	7%	0.76	\$ -		571	6	5	5	
Assets commissioned in 2019 / 2020	2020		\$ -	\$ -	\$ -	7%	0.71	\$ -		577	6	5	4	
Assets commissioned in 2020 / 2021	2021		\$ -	\$ -	\$ -	7%	0.67	\$ -		583	6	5	4	
Assets commissioned in 2021 / 2022	2022		\$ -	\$ -	\$ -	7%	0.62	\$ -		596	13	11	8	
Assets commissioned in 2022 / 2023	2023		\$ -	\$ -	\$ -	7%	0.58	\$ -		609	13	11	8	
Assets commissioned in 2023 / 2024	2024		\$ -	\$ -	\$ -	7%	0.54	\$ -		623	14	11	8	
Assets commissioned in 2024 / 2025	2025		\$ -	\$ -	\$ -	7%	0.51	\$ -		637	14	11	7	
Assets commissioned in 2025 / 2026	2026			\$ -	\$ -	7%	0.48	\$ -		652	15	11	7	
Assets commissioned in 2026 / 2027	2027			\$ -	\$ -	7%	0.44	\$ -		652	0	0	0	
Assets commissioned in 2027 / 2028	2028			\$ -	\$ -	7%	0.41	\$ -		653	0	0	0	
Assets commissioned in 2028 / 2029	2029			\$ -	\$ -	7%	0.39	\$ -		653	0	0	0	
Assets commissioned in 2029 / 2030	2030			\$ -	\$ -	7%	0.36	\$ -		654	0	0	0	
Assets commissioned in 2030 / 2031	2031			\$ -	\$ -	7%	0.34	\$ -		654	0	0	0	
Assets commissioned in 2031 / 2032	2032			\$ -	\$ -	7%	0.32	\$ -		659	5	3	1	
Assets commissioned in 2032 / 2033	2033			\$ -	\$ -	7%	0.30	\$ -		663	5	3	1	
Assets commissioned in 2033 / 2034	2034			\$ -	\$ -	7%	0.28	\$ -		668	5	3	1	
Assets commissioned in 2034 / 2035	2035			\$ -	\$ -	7%	0.26	\$ -		672	5	3	1	
Assets commissioned in 2035 / 2036	2036			\$ -	\$ -	7%	0.24	\$ -		677	5	3	1	
Assets commissioned in 2036 / 2037	2037			\$ -	\$ -	7%	0.23	\$ -		681	4	2	1	
Assets commissioned in 2037 / 2038	2038			\$ -	\$ -	7%	0.21	\$ -		686	4	2	1	
Assets commissioned in 2038 / 2039	2039			\$ -	\$ -	7%	0.20	\$ -		690	4	2	1	
Assets commissioned in 2039 / 2040	2040			\$ -	\$ -	7%	0.18	\$ -		695	4	2	1	
Assets commissioned in 2040 / 2041	2041			\$ -	\$ -	7%	0.17	\$ -		699	4	2	1	
Assets commissioned in 2041 / 2042	2042			\$ -	\$ -	7%	0.16	\$ -		704	5	2	1	
Assets commissioned in 2042 / 2043	2043			\$ -	\$ -	7%	0.15	\$ -		708	5	2	1	
Assets commissioned in 2043 / 2044	2044			\$ -	\$ -	7%	0.14	\$ -		713	5	2	1	
Assets commissioned in 2044 / 2045	2045			\$ -	\$ -	7%	0.13	\$ -		717	5	2	1	
Assets commissioned in 2045 / 2046	2046			\$ -	\$ -	7%	0.12	\$ -		723	6	2	1	
<b>Subtotal (Future Assets)</b>			\$ -	\$ -	\$ -				\$ -	Future ET total	170	115		
								\$ 303,773				182	125	\$ 2,425
											<b>TOTAL BERRIMA CAPITAL CHARGE PER ET</b>		<b>\$ 19,109</b>	

ConstructionYear (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>BOWRAL</b>														
Percentage of capital works utilised by new ETs after 1996: 33%														
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1970	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1971	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1972	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1973	1996	\$ 2,981,595			\$ 975,906	3%	1.00	\$ 975,906						
Assets commissioned in 1974	1996	\$ 6,268			\$ 2,052	3%	1.00	\$ 2,052						
Assets commissioned in 1975	1996	\$ 31,054			\$ 10,164	3%	1.00	\$ 10,164						
Assets commissioned in 1976	1996	\$ 2,716,596			\$ 889,169	3%	1.00	\$ 889,169						
Assets commissioned in 1977	1996	\$ 360,926			\$ 118,135	3%	1.00	\$ 118,135						
Assets commissioned in 1978	1996	\$ 122,662			\$ 40,148	3%	1.00	\$ 40,148						
Assets commissioned in 1979	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1980	1996	\$ 62,671			\$ 20,513	3%	1.00	\$ 20,513						
Assets commissioned in 1981	1996	\$ 539,164			\$ 176,474	3%	1.00	\$ 176,474						
Assets commissioned in 1982	1996	\$ 3,147,525			\$ 1,030,217	3%	1.00	\$ 1,030,217						
Assets commissioned in 1983	1996	\$ 8,073,330			\$ 2,642,482	3%	1.00	\$ 2,642,482						
Assets commissioned in 1984	1996	\$ 56,022			\$ 18,336	3%	1.00	\$ 18,336						
Assets commissioned in 1985	1996	\$ 68,176			\$ 22,315	3%	1.00	\$ 22,315						
Assets commissioned in 1986	1996	\$ 762,984			\$ 249,732	3%	1.00	\$ 249,732						
Assets commissioned in 1987	1996	\$ 98,046			\$ 32,092	3%	1.00	\$ 32,092						
Assets commissioned in 1988	1996	\$ 9,994			\$ 3,271	3%	1.00	\$ 3,271						
Assets commissioned in 1989	1996	\$ 1,579,662			\$ 517,039	3%	1.00	\$ 517,039						
Assets commissioned in 1990	1996	\$ 1,889,288			\$ 618,383	3%	1.00	\$ 618,383						
Assets commissioned in 1991	1996	\$ 243,260			\$ 79,621	3%	1.00	\$ 79,621						
Assets commissioned in 1992	1996	\$ 62,544			\$ 20,471	3%	1.00	\$ 20,471						
Assets commissioned in 1993	1996	\$ 1,785,232			\$ 584,324	3%	1.00	\$ 584,324						
Assets commissioned in 1994	1996	\$ 663,057			\$ 217,025	3%	1.00	\$ 217,025						
Assets commissioned in 1995	1996	\$ 190,515			\$ 62,357	3%	1.00	\$ 62,357						
<b>Subtotal (Assets Pre 1996)</b>		<b>\$ 25,450,570</b>			<b>\$ 8,330,227</b>				<b>\$ 8,330,227</b>		<b>5535</b>			<b>\$ 4,415</b>
<b>Post 1996 - Current Assets</b>														
Assets commissioned in 1996	1996	\$ 108,692			\$ 35,576	7%	1.00	\$ 35,576		5578	43	43	43	
Assets commissioned in 1997	1997	\$ 371,211			\$ 121,501	7%	0.93	\$ 113,552		5621	43	42	40	
Assets commissioned in 1998	1998	\$ 1,351,490			\$ 442,356	7%	0.87	\$ 386,371		5664	43	41	38	
Assets commissioned in 1999	1999	\$ 302,979			\$ 99,168	7%	0.82	\$ 80,951		5707	44	40	36	
Assets commissioned in 2000	2000	\$ 976,408			\$ 319,588	7%	0.76	\$ 243,812		5751	44	39	34	
Assets commissioned in 2001	2001	\$ 909,167			\$ 297,580	7%	0.71	\$ 212,170		5796	44	38	32	
Assets commissioned in 2002	2002	\$ 322,577			\$ 105,583	7%	0.67	\$ 70,354		5840	45	37	30	
Assets commissioned in 2003	2003	\$ 488,348			\$ 159,841	7%	0.62	\$ 99,541		5885	45	37	28	
Assets commissioned in 2004	2004	\$ 548,520			\$ 179,536	7%	0.58	\$ 104,492		5931	45	36	26	
Assets commissioned in 2005	2005	\$ 351,580			\$ 115,076	7%	0.54	\$ 62,593		5977	46	35	25	
Assets commissioned in 2006	2006	\$ 18,098,723			\$ 5,923,894	7%	0.51	\$ 3,011,407		6023	46	34	23	
Assets commissioned in 2007	2007	\$ 346,464			\$ 113,401	7%	0.48	\$ 53,876		6069	46	34	22	
Assets commissioned in 2008	2008	\$ 1,134,281			\$ 371,262	7%	0.44	\$ 164,845		6116	47	33	21	
Assets commissioned in 2009	2009	\$ 385,210			\$ 126,083	7%	0.41	\$ 52,320		6163	47	32	20	
Assets commissioned in 2010	2010	\$ 247,612			\$ 81,046	7%	0.39	\$ 31,431		6210	47	31	18	
Assets commissioned in 2011	2011	\$ 420,412			\$ 137,605	7%	0.36	\$ 49,874		6258	48	31	17	
Assets commissioned in 2012	2012	\$ 696,352			\$ 227,923	7%	0.34	\$ 77,205		6306	48	30	16	
Assets commissioned in 2013	2013	\$ 449,652			\$ 147,176	7%	0.32	\$ 46,592		6355	49	29	15	
Assets commissioned in 2014	2014	\$ 540,771			\$ 177,000	7%	0.30	\$ 52,368		6404	49	29	14	
Assets commissioned in 2015	2015	\$ 333,291			\$ 109,089	7%	0.28	\$ 30,164		6475	71	40	20	
<b>Subtotal (Past 1996 - Current Assets)</b>		<b>\$ 28,383,740</b>			<b>\$ 9,290,283</b>				<b>\$ 4,979,496</b>					

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)	
<b>Future Assets</b>															
Assets commissioned in 2015 / 2016	2016		\$ -	\$ 800,000	\$ 261,848	7%	0.93	\$ 244,718		6547	72	70	67		
Assets commissioned in 2016 / 2017	2017		\$ -	\$ 1,000,000	\$ 327,310	7%	0.87	\$ 285,885		6630	83	78	72		
Assets commissioned in 2017 / 2018	2018		\$ -	\$ 10,500,000	\$ 3,436,755	7%	0.82	\$ 2,805,416		6713	84	77	68		
Assets commissioned in 2018 / 2019	2019		\$ -	\$ 10,500,000	\$ 3,436,755	7%	0.76	\$ 2,621,884		6798	85	76	65		
Assets commissioned in 2019 / 2020	2020		\$ -	\$ -	\$ -	7%	0.71	\$ -		6885	86	74	61		
Assets commissioned in 2020 / 2021	2021		\$ -	\$ 300,000	\$ 98,193	7%	0.67	\$ 65,430		6972	87	73	58		
Assets commissioned in 2021 / 2022	2022		\$ -	\$ -	\$ -	7%	0.62	\$ -		7024	52	42	32		
Assets commissioned in 2022 / 2023	2023		\$ -	\$ 3,800,000	\$ 1,243,778	7%	0.58	\$ 723,890		7077	53	41	31		
Assets commissioned in 2023 / 2024	2024		\$ -	\$ -	\$ -	7%	0.54	\$ -		7130	53	41	29		
Assets commissioned in 2024 / 2025	2025		\$ -	\$ -	\$ -	7%	0.51	\$ -		7183	53	40	27		
Assets commissioned in 2025 / 2026	2026		\$ -	\$ -	\$ -	7%	0.48	\$ -		7237	54	39	26		
Assets commissioned in 2026 / 2027	2027		\$ -	\$ -	\$ -	7%	0.44	\$ -		7279	42	30	19		
Assets commissioned in 2027 / 2028	2028		\$ -	\$ -	\$ -	7%	0.41	\$ -		7322	43	29	18		
Assets commissioned in 2028 / 2029	2029		\$ -	\$ -	\$ -	7%	0.39	\$ -		7365	43	28	17		
Assets commissioned in 2029 / 2030	2030		\$ -	\$ -	\$ -	7%	0.36	\$ -		7408	43	28	16		
Assets commissioned in 2030 / 2031	2031		\$ -	\$ -	\$ -	7%	0.34	\$ -		7451	43	27	15		
Assets commissioned in 2031 / 2032	2032		\$ -	\$ -	\$ -	7%	0.32	\$ -		7500	49	30	16		
Assets commissioned in 2032 / 2033	2033		\$ -	\$ -	\$ -	7%	0.30	\$ -		7550	50	29	15		
Assets commissioned in 2033 / 2034	2034		\$ -	\$ -	\$ -	7%	0.28	\$ -		7600	50	29	14		
Assets commissioned in 2034 / 2035	2035		\$ -	\$ -	\$ -	7%	0.26	\$ -		7650	50	28	13		
Assets commissioned in 2035 / 2036	2036		\$ -	\$ -	\$ -	7%	0.24	\$ -		7701	51	27	12		
Assets commissioned in 2036 / 2037	2037		\$ -	\$ -	\$ -	7%	0.23	\$ -		7752	51	27	12		
Assets commissioned in 2037 / 2038	2038		\$ -	\$ -	\$ -	7%	0.21	\$ -		7804	51	26	11		
Assets commissioned in 2038 / 2039	2039		\$ -	\$ -	\$ -	7%	0.20	\$ -		7855	52	25	10		
Assets commissioned in 2039 / 2040	2040		\$ -	\$ -	\$ -	7%	0.18	\$ -		7907	52	25	10		
Assets commissioned in 2040 / 2041	2041		\$ -	\$ -	\$ -	7%	0.17	\$ -		7960	53	24	9		
Assets commissioned in 2041 / 2042	2042		\$ -	\$ -	\$ -	7%	0.16	\$ -		8013	53	24	9		
Assets commissioned in 2042 / 2043	2043		\$ -	\$ -	\$ -	7%	0.15	\$ -		8066	53	23	8		
Assets commissioned in 2043 / 2044	2044		\$ -	\$ -	\$ -	7%	0.14	\$ -		8120	54	23	8		
Assets commissioned in 2044 / 2045	2045		\$ -	\$ -	\$ -	7%	0.13	\$ -		8174	54	22	7		
Assets commissioned in 2045 / 2046	2046		\$ -	\$ -	\$ -	7%	0.12	\$ -		8228	54	22	7		
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ 26,900,000</b>	<b>\$ 8,804,640</b>				<b>\$ 6,747,224</b>	Future ET total	1753	1176			
									<b>\$ 11,726,720</b>			<b>1887</b>	<b>1297</b>	<b>\$ 9,043</b>	
											<b>TOTAL BOWRAL CAPITAL CHARGE PER ET</b>				<b>\$ 14,941</b>

ConstructionYear (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)	
<b>BUNDANOON</b>															
Percentage of capital works utilised by new ETs after					21%										
Assets commissioned in	1969	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1970	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1971	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1972	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1973	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1974	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1975	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1976	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1977	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1978	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1979	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1980	1996	\$ 56,144		\$ 11,705	3%	1.00	\$ 11,705							
Assets commissioned in	1981	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1982	1996	\$ 10,122,062		\$ 2,110,261	3%	1.00	\$ 2,110,261							
Assets commissioned in	1983	1996	\$ 98,919		\$ 20,623	3%	1.00	\$ 20,623							
Assets commissioned in	1984	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1985	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1986	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1987	1996	\$ 370,316		\$ 77,204	3%	1.00	\$ 77,204							
Assets commissioned in	1988	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1989	1996	\$ 136,120		\$ 28,378	3%	1.00	\$ 28,378							
Assets commissioned in	1990	1996	\$ -		\$ -	3%	1.00	\$ -							
Assets commissioned in	1991	1996	\$ 19,692		\$ 4,105	3%	1.00	\$ 4,105							
Assets commissioned in	1992	1996	\$ 51,553		\$ 10,748	3%	1.00	\$ 10,748							
Assets commissioned in	1993	1996	\$ 12,152		\$ 2,533	3%	1.00	\$ 2,533							
Assets commissioned in	1994	1996	\$ 124,817		\$ 26,022	3%	1.00	\$ 26,022							
Assets commissioned in	1995	1996	\$ -		\$ -	3%	1.00	\$ -		1110					
<b>Subtotal (Assets Pre 1996)</b>			<b>\$ 10,991,776</b>		<b>\$ 2,291,580</b>				<b>\$ 2,291,580</b>					<b>\$ 12,265</b>	
<b>Post 1996 - Current Assets</b>															
Assets commissioned in	1996	1996	\$ -		\$ -	7%	1.00	\$ -		1115	5	5	5		
Assets commissioned in	1997	1997	\$ 38,340		\$ 7,993	7%	0.93	\$ 7,470		1120	5	5	5		
Assets commissioned in	1998	1998	\$ 19,089		\$ 3,980	7%	0.87	\$ 3,476		1125	5	5	5		
Assets commissioned in	1999	1999	\$ 25,500		\$ 5,316	7%	0.82	\$ 4,340		1131	5	5	4		
Assets commissioned in	2000	2000	\$ 14,294		\$ 2,980	7%	0.76	\$ 2,274		1136	5	5	4		
Assets commissioned in	2001	2001	\$ 14,626		\$ 3,049	7%	0.71	\$ 2,174		1141	5	5	4		
Assets commissioned in	2002	2002	\$ 8,496		\$ 1,771	7%	0.67	\$ 1,180		1147	5	4	4		
Assets commissioned in	2003	2003	\$ 36,342		\$ 7,577	7%	0.62	\$ 4,718		1152	5	4	3		
Assets commissioned in	2004	2004	\$ 313,895		\$ 65,441	7%	0.58	\$ 38,087		1157	5	4	3		
Assets commissioned in	2005	2005	\$ 42,089		\$ 8,775	7%	0.54	\$ 4,773		1163	5	4	3		
Assets commissioned in	2006	2006	\$ 192,132		\$ 40,056	7%	0.51	\$ 20,362		1168	5	4	3		
Assets commissioned in	2007	2007	\$ 82,930		\$ 17,289	7%	0.48	\$ 8,214		1174	5	4	3		
Assets commissioned in	2008	2008	\$ 135,793		\$ 28,310	7%	0.44	\$ 12,570		1179	6	4	2		
Assets commissioned in	2009	2009	\$ 11,372		\$ 2,371	7%	0.41	\$ 984		1185	6	4	2		
Assets commissioned in	2010	2010	\$ 13,573,163		\$ 2,829,751	7%	0.39	\$ 1,097,426		1190	6	4	2		
Assets commissioned in	2011	2011	\$ 13,961		\$ 2,911	7%	0.36	\$ 1,055		1196	6	4	2		
Assets commissioned in	2012	2012	\$ 201,527		\$ 42,015	7%	0.34	\$ 14,232		1202	6	3	2		
Assets commissioned in	2013	2013	\$ 426,164		\$ 88,847	7%	0.32	\$ 28,127		1207	6	3	2		
Assets commissioned in	2014	2014	\$ 36,134		\$ 7,533	7%	0.30	\$ 2,229		1213	6	3	2		
Assets commissioned in	2015	2015	\$ 16,301		\$ 3,398	7%	0.28	\$ 940		1216	3	2	1		
<b>Subtotal (Past 1996 - Current Assets)</b>			<b>\$ 15,202,147</b>		<b>\$ 3,169,363</b>				<b>\$ 1,254,631</b>						

Wingecarribee Shire Council Sewerage DSP 2016

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)	
<b>Future Assets</b>															
Assets commissioned in 2015 / 2016	2016		\$ -	\$ -	\$ -	7%	0.93	\$ -		1219	3	3	3		
Assets commissioned in 2016 / 2017	2017		\$ -	\$ -	\$ -	7%	0.87	\$ -		1222	3	3	3		
Assets commissioned in 2017 / 2018	2018		\$ -	\$ -	\$ -	7%	0.82	\$ -		1225	3	3	2		
Assets commissioned in 2018 / 2019	2019		\$ -	\$ -	\$ -	7%	0.76	\$ -		1228	3	3	2		
Assets commissioned in 2019 / 2020	2020		\$ -	\$ -	\$ -	7%	0.71	\$ -		1231	3	3	2		
Assets commissioned in 2020 / 2021	2021		\$ -	\$ -	\$ -	7%	0.67	\$ -		1234	3	3	2		
Assets commissioned in 2021 / 2022	2022		\$ -	\$ -	\$ -	7%	0.62	\$ -		1237	3	2	2		
Assets commissioned in 2022 / 2023	2023		\$ -	\$ -	\$ -	7%	0.58	\$ -		1240	3	2	2		
Assets commissioned in 2023 / 2024	2024		\$ -	\$ -	\$ -	7%	0.54	\$ -		1242	3	2	2		
Assets commissioned in 2024 / 2025	2025		\$ -	\$ -	\$ -	7%	0.51	\$ -		1245	3	2	1		
Assets commissioned in 2025 / 2026	2026			\$ -	\$ -	7%	0.48	\$ -		1248	3	2	1		
Assets commissioned in 2026 / 2027	2027			\$ -	\$ -	7%	0.44	\$ -		1251	3	2	1		
Assets commissioned in 2027 / 2028	2028			\$ -	\$ -	7%	0.41	\$ -		1254	3	2	1		
Assets commissioned in 2028 / 2029	2029			\$ -	\$ -	7%	0.39	\$ -		1256	3	2	1		
Assets commissioned in 2029 / 2030	2030			\$ -	\$ -	7%	0.36	\$ -		1259	3	2	1		
Assets commissioned in 2030 / 2031	2031			\$ -	\$ -	7%	0.34	\$ -		1262	3	2	1		
Assets commissioned in 2031 / 2032	2032			\$ -	\$ -	7%	0.32	\$ -		1271	9	5	3		
Assets commissioned in 2032 / 2033	2033			\$ -	\$ -	7%	0.30	\$ -		1280	9	5	3		
Assets commissioned in 2033 / 2034	2034			\$ -	\$ -	7%	0.28	\$ -		1289	9	5	2		
Assets commissioned in 2034 / 2035	2035			\$ -	\$ -	7%	0.26	\$ -		1298	9	5	2		
Assets commissioned in 2035 / 2036	2036			\$ -	\$ -	7%	0.24	\$ -		1307	9	5	2		
Assets commissioned in 2036 / 2037	2037			\$ -	\$ -	7%	0.23	\$ -		1316	9	5	2		
Assets commissioned in 2037 / 2038	2038			\$ -	\$ -	7%	0.21	\$ -		1325	9	5	2		
Assets commissioned in 2038 / 2039	2039			\$ -	\$ -	7%	0.20	\$ -		1334	9	5	2		
Assets commissioned in 2039 / 2040	2040			\$ -	\$ -	7%	0.18	\$ -		1344	9	4	2		
Assets commissioned in 2040 / 2041	2041			\$ -	\$ -	7%	0.17	\$ -		1353	9	4	2		
Assets commissioned in 2041 / 2042	2042			\$ -	\$ -	7%	0.16	\$ -		1362	9	4	2		
Assets commissioned in 2042 / 2043	2043			\$ -	\$ -	7%	0.15	\$ -		1372	9	4	1		
Assets commissioned in 2043 / 2044	2044			\$ -	\$ -	7%	0.14	\$ -		1381	10	4	1		
Assets commissioned in 2044 / 2045	2045			\$ -	\$ -	7%	0.13	\$ -		1391	10	4	1		
Assets commissioned in 2045 / 2046	2046			\$ -	\$ -	7%	0.12	\$ -		1402	11	4	1		
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>				<b>\$ -</b>	Future ET total	186	105			
									<b>\$ 1,254,631</b>			<b>187</b>	<b>116</b>	<b>\$ 10,803</b>	
											<b>TOTAL BUNDAHOON CAPITAL CHARGE PER ET</b>				<b>\$ 24,551</b>



Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>MITTAGONG</b>														
Percentage of capital works utilised by new ETs after					34%									
Assets commissioned in	1969	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1970	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1971	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1972	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1973	1996	\$ 2,925		\$ 610	3%	1.00	\$ 610						
Assets commissioned in	1974	1996	\$ 5,297,781		\$ 1,104,488	3%	1.00	\$ 1,104,488						
Assets commissioned in	1975	1996	\$ 2,380,004		\$ 496,186	3%	1.00	\$ 496,186						
Assets commissioned in	1976	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1977	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1978	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1979	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1980	1996	\$ 476,224		\$ 99,284	3%	1.00	\$ 99,284						
Assets commissioned in	1981	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1982	1996	\$ 362,386		\$ 75,551	3%	1.00	\$ 75,551						
Assets commissioned in	1983	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1984	1996	\$ 99,115		\$ 20,664	3%	1.00	\$ 20,664						
Assets commissioned in	1985	1996	\$ 167,123		\$ 34,842	3%	1.00	\$ 34,842						
Assets commissioned in	1986	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1987	1996	\$ -		\$ -	3%	1.00	\$ -						
Assets commissioned in	1988	1996	\$ 1,289,195		\$ 268,773.06	3%	1.00	\$ 268,773						
Assets commissioned in	1989	1996	\$ 39,392		\$ 8,212	3%	1.00	\$ 8,212						
Assets commissioned in	1990	1996	\$ 205,269		\$ 42,795	3%	1.00	\$ 42,795						
Assets commissioned in	1991	1996	\$ 72,249		\$ 15,063	3%	1.00	\$ 15,063						
Assets commissioned in	1992	1996	\$ 5,550		\$ 1,157	3%	1.00	\$ 1,157						
Assets commissioned in	1993	1996	\$ 136,832		\$ 28,527	3%	1.00	\$ 28,527						
Assets commissioned in	1994	1996	\$ 67,971		\$ 14,171	3%	1.00	\$ 14,171						
Assets commissioned in	1995	1996	\$ 8,775		\$ 1,830	3%	1.00	\$ 1,830						
<b>Subtotal (Assets Pre 1996)</b>			<b>\$ 10,610,792</b>		<b>\$ 2,212,151</b>				<b>\$ 2,212,151</b>	<b>5860</b>				<b>\$ 1,059</b>
<b>Post 1996 - Current Assets</b>														
Assets commissioned in	1996	1996	\$ 2,925		\$ 610	7%	1.00	\$ 610		5906	46	46	46	
Assets commissioned in	1997	1997	\$ 444,263		\$ 92,620	7%	0.93	\$ 86,561		5953	46	45	43	
Assets commissioned in	1998	1998	\$ 517,820		\$ 107,956	7%	0.87	\$ 94,293		5999	47	44	41	
Assets commissioned in	1999	1999	\$ 600,414		\$ 125,175	7%	0.82	\$ 102,180		6046	47	43	38	
Assets commissioned in	2000	2000	\$ 659,595		\$ 137,513	7%	0.76	\$ 104,908		6094	48	42	36	
Assets commissioned in	2001	2001	\$ 27,100,688		\$ 5,649,986	7%	0.71	\$ 4,028,362		6142	48	41	34	
Assets commissioned in	2002	2002	\$ 3,579,169		\$ 746,190	7%	0.67	\$ 497,218		6190	48	40	32	
Assets commissioned in	2003	2003	\$ 14,651,619		\$ 3,054,588	7%	0.62	\$ 1,902,244		6239	49	40	30	
Assets commissioned in	2004	2004	\$ 806,330		\$ 168,105	7%	0.58	\$ 97,838		6288	49	39	29	
Assets commissioned in	2005	2005	\$ 601,851		\$ 125,475	7%	0.54	\$ 68,250		6337	49	38	27	
Assets commissioned in	2006	2006	\$ 789,242		\$ 164,542	7%	0.51	\$ 83,645		6387	50	37	25	
Assets commissioned in	2007	2007	\$ 229,043		\$ 47,751	7%	0.48	\$ 22,686		6437	50	36	24	
Assets commissioned in	2008	2008	\$ 290,145		\$ 60,490	7%	0.44	\$ 26,858		6488	51	35	22	
Assets commissioned in	2009	2009	\$ 560,303		\$ 116,813	7%	0.41	\$ 48,473		6539	51	35	21	
Assets commissioned in	2010	2010	\$ 404,395		\$ 84,309	7%	0.39	\$ 32,696		6590	51	34	20	
Assets commissioned in	2011	2011	\$ 630,064		\$ 131,357	7%	0.36	\$ 47,610		6642	52	33	19	
Assets commissioned in	2012	2012	\$ 355,693		\$ 74,155	7%	0.34	\$ 25,119		6694	52	33	18	
Assets commissioned in	2013	2013	\$ 578,972		\$ 120,705	7%	0.32	\$ 38,212		6747	53	32	17	
Assets commissioned in	2014	2014	\$ 297,025		\$ 61,924	7%	0.30	\$ 18,321		6800	53	31	16	
Assets commissioned in	2015	2015	\$ 55,956		\$ 11,666	7%	0.28	\$ 3,226		6895	95	54	26	
<b>Subtotal (Past 1996 - Current Assets)</b>			<b>\$ 53,155,513</b>		<b>\$ 11,081,930</b>				<b>\$ 7,329,311</b>					

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Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ -	\$ -	7%	0.93	\$ -		6992	97	94	90	
Assets commissioned in 2016 / 2017	2017		\$ -	\$ -	\$ -	7%	0.87	\$ -		7090	98	93	86	
Assets commissioned in 2017 / 2018	2018		\$ -	\$ -	\$ -	7%	0.82	\$ -		7190	100	91	82	
Assets commissioned in 2018 / 2019	2019		\$ -	\$ -	\$ -	7%	0.76	\$ -		7292	102	90	78	
Assets commissioned in 2019 / 2020	2020		\$ -	\$ -	\$ -	7%	0.71	\$ -		7395	103	89	74	
Assets commissioned in 2020 / 2021	2021		\$ -	\$ -	\$ -	7%	0.67	\$ -		7500	105	88	70	
Assets commissioned in 2021 / 2022	2022		\$ -	\$ 1,000,000	\$ 355,543	7%	0.62	\$ 221,414		7542	42	34	26	
Assets commissioned in 2022 / 2023	2023		\$ -	\$ 1,500,000	\$ 533,315	7%	0.58	\$ 310,394		7585	43	34	25	
Assets commissioned in 2023 / 2024	2024		\$ -	\$ 11,200,000	\$ 3,982,084	7%	0.54	\$ 2,165,990		7628	43	33	23	
Assets commissioned in 2024 / 2025	2025		\$ -	\$ 11,200,000	\$ 3,982,084	7%	0.51	\$ 2,024,290		7671	43	32	22	
Assets commissioned in 2025 / 2026	2026		\$ -	\$ -	\$ -	7%	0.48	\$ -		7714	43	31	21	
Assets commissioned in 2026 / 2027	2027		\$ -	\$ -	\$ -	7%	0.44	\$ -		7772	58	41	26	
Assets commissioned in 2027 / 2028	2028		\$ -	\$ -	\$ -	7%	0.41	\$ -		7831	59	40	24	
Assets commissioned in 2028 / 2029	2029		\$ -	\$ -	\$ -	7%	0.39	\$ -		7891	59	39	23	
Assets commissioned in 2029 / 2030	2030		\$ -	\$ -	\$ -	7%	0.36	\$ -		7951	60	38	22	
Assets commissioned in 2030 / 2031	2031		\$ -	\$ -	\$ -	7%	0.34	\$ -		8011	60	38	20	
Assets commissioned in 2031 / 2032	2032		\$ -	\$ -	\$ -	7%	0.32	\$ -		8063	52	31	16	
Assets commissioned in 2032 / 2033	2033		\$ -	\$ -	\$ -	7%	0.30	\$ -		8115	52	31	15	
Assets commissioned in 2033 / 2034	2034		\$ -	\$ -	\$ -	7%	0.28	\$ -		8167	52	30	14	
Assets commissioned in 2034 / 2035	2035		\$ -	\$ -	\$ -	7%	0.26	\$ -		8220	53	29	14	
Assets commissioned in 2035 / 2036	2036		\$ -	\$ -	\$ -	7%	0.24	\$ -		8273	53	29	13	
Assets commissioned in 2036 / 2037	2037		\$ -	\$ -	\$ -	7%	0.23	\$ -		8327	54	28	12	
Assets commissioned in 2037 / 2038	2038		\$ -	\$ -	\$ -	7%	0.21	\$ -		8381	54	27	11	
Assets commissioned in 2038 / 2039	2039		\$ -	\$ -	\$ -	7%	0.20	\$ -		8435	54	27	11	
Assets commissioned in 2039 / 2040	2040		\$ -	\$ -	\$ -	7%	0.18	\$ -		8490	55	26	10	
Assets commissioned in 2040 / 2041	2041		\$ -	\$ -	\$ -	7%	0.17	\$ -		8545	55	26	9	
Assets commissioned in 2041 / 2042	2042		\$ -	\$ -	\$ -	7%	0.16	\$ -		8601	56	25	9	
Assets commissioned in 2042 / 2043	2043		\$ -	\$ -	\$ -	7%	0.15	\$ -		8657	56	24	8	
Assets commissioned in 2043 / 2044	2044		\$ -	\$ -	\$ -	7%	0.14	\$ -		8713	56	24	8	
Assets commissioned in 2044 / 2045	2045		\$ -	\$ -	\$ -	7%	0.13	\$ -		8770	57	23	7	
Assets commissioned in 2045 / 2046	2046		\$ -	\$ -	\$ -	7%	0.12	\$ -		8827	57	23	7	
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ 24,900,000</b>	<b>\$ 8,369,535</b>				<b>\$ 4,722,088</b>	Future ET total	1932	1309		
									<b>\$ 12,051,399</b>			<b>2088</b>	<b>1443</b>	<b>\$ 8,353</b>
											<b>TOTAL CAPITAL CHARGE PER ET</b>		<b>\$ 10,896</b>	

ConstructionYear (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
ConstructionYear	Effective Commission	Capital Cost of Existing	Capital Cost for	Capital Cost for	Effective Capital Cost	Discount Rate for	PV Factor	PV of capital costs	Total PV of capital	Total ET	New ETs per	PV of new ETs	PV of new ETs	Capital Charge per
MOSS VALE		Percentage of capital works utilised by new ETs after			41%									
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1970	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1971	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1972	1996	\$ 222,711			\$ 46,431	3%	1.00	\$ 46,431						
Assets commissioned in 1973	1996	\$ 233,465			\$ 48,673	3%	1.00	\$ 48,673						
Assets commissioned in 1974	1996	\$ 1,715,355			\$ 357,619	3%	1.00	\$ 357,619						
Assets commissioned in 1975	1996	\$ 1,035,852			\$ 215,956	3%	1.00	\$ 215,956						
Assets commissioned in 1976	1996	\$ 136,043			\$ 28,362	3%	1.00	\$ 28,362						
Assets commissioned in 1977	1996	\$ 1,383,891			\$ 288,515	3%	1.00	\$ 288,515						
Assets commissioned in 1978	1996	\$ 1,552,635			\$ 323,695	3%	1.00	\$ 323,695						
Assets commissioned in 1979	1996	\$ 1,474,757			\$ 307,459	3%	1.00	\$ 307,459						
Assets commissioned in 1980	1996	\$ 1,470,113			\$ 306,491	3%	1.00	\$ 306,491						
Assets commissioned in 1981	1996	\$ 162,457			\$ 33,869	3%	1.00	\$ 33,869						
Assets commissioned in 1982	1996	\$ 2,626,689			\$ 547,615	3%	1.00	\$ 547,615						
Assets commissioned in 1983	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1984	1996	\$ 61,161			\$ 12,751	3%	1.00	\$ 12,751						
Assets commissioned in 1985	1996	\$ 702,875			\$ 146,536	3%	1.00	\$ 146,536						
Assets commissioned in 1986	1996	\$ 172,566			\$ 35,977	3%	1.00	\$ 35,977						
Assets commissioned in 1987	1996	\$ 468,043			\$ 97,578	3%	1.00	\$ 97,578						
Assets commissioned in 1988	1996	\$ 526,271			\$ 109,717.62	3%	1.00	\$ 109,718						
Assets commissioned in 1989	1996	\$ 1,437,862			\$ 299,767	3%	1.00	\$ 299,767						
Assets commissioned in 1990	1996	\$ 216,769			\$ 45,192	3%	1.00	\$ 45,192						
Assets commissioned in 1991	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1992	1996	\$ 41,720			\$ 8,698	3%	1.00	\$ 8,698						
Assets commissioned in 1993	1996	\$ 346,264			\$ 72,190	3%	1.00	\$ 72,190						
Assets commissioned in 1994	1996	\$ 208,989			\$ 43,570	3%	1.00	\$ 43,570						
Assets commissioned in 1995	1996	\$ 49,434			\$ 10,306	3%	1.00	\$ 10,306		2989				
<b>Subtotal (Assets Pre 1996)</b>		<b>\$ 16,245,922</b>			<b>\$ 3,386,971</b>				<b>\$ 3,386,971</b>					<b>\$ 2,493</b>
<b>Post 1996 - Current Assets</b>														
Assets commissioned in 1996	1996	\$ 384,599			\$ 80,182	7%	1.00	\$ 80,182		3002	12	12	12	
Assets commissioned in 1997	1997	\$ 81,285			\$ 16,946	7%	0.93	\$ 15,838		3014	13	12	12	
Assets commissioned in 1998	1998	\$ 10,792,881			\$ 2,250,114	7%	0.87	\$ 1,965,337		3027	13	12	11	
Assets commissioned in 1999	1999	\$ 825,111			\$ 172,020	7%	0.82	\$ 140,420		3040	13	12	10	
Assets commissioned in 2000	2000	\$ 446,675			\$ 93,123	7%	0.76	\$ 71,043		3052	13	11	10	
Assets commissioned in 2001	2001	\$ 480,542			\$ 100,184	7%	0.71	\$ 71,430		3065	13	11	9	
Assets commissioned in 2002	2002	\$ 238,209			\$ 49,662	7%	0.67	\$ 33,092		3078	13	11	9	
Assets commissioned in 2003	2003	\$ 262,267			\$ 54,678	7%	0.62	\$ 34,051		3091	13	10	8	
Assets commissioned in 2004	2004	\$ 413,606			\$ 86,229	7%	0.58	\$ 50,186		3104	13	10	8	
Assets commissioned in 2005	2005	\$ 30,508			\$ 6,360	7%	0.54	\$ 3,460		3117	13	10	7	
Assets commissioned in 2006	2006	\$ 21,765			\$ 4,538	7%	0.51	\$ 2,307		3130	13	10	7	
Assets commissioned in 2007	2007	\$ 304,064			\$ 63,392	7%	0.48	\$ 30,117		3143	13	9	6	
Assets commissioned in 2008	2008	\$ 178,143			\$ 37,140	7%	0.44	\$ 16,490		3156	13	9	6	
Assets commissioned in 2009	2009	\$ 394,716			\$ 82,291	7%	0.41	\$ 34,148		3169	13	9	5	
Assets commissioned in 2010	2010	\$ 809,965			\$ 168,863	7%	0.39	\$ 65,488		3182	13	9	5	
Assets commissioned in 2011	2011	\$ 226,018			\$ 47,121	7%	0.36	\$ 17,079		3196	13	9	5	
Assets commissioned in 2012	2012	\$ 1,664,500			\$ 347,017	7%	0.34	\$ 117,547		3209	13	8	5	
Assets commissioned in 2013	2013	\$ 181,819			\$ 37,906	7%	0.32	\$ 12,000		3223	13	8	4	
Assets commissioned in 2014	2014	\$ 90,151			\$ 18,795	7%	0.30	\$ 5,561		3236	13	8	4	
Assets commissioned in 2015	2015	\$ 11,700			\$ 2,439	7%	0.28	\$ 674		3283	47	27	13	
<b>Subtotal (Past 1996 - Current Assets)</b>		<b>\$ 17,838,524</b>			<b>\$ 3,718,999</b>				<b>\$ 2,766,447</b>					

Wingecarribee Shire Council Sewerage DSP 2016

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ -	\$ -	7%	0.93	\$ -		3330	47	46	44	
Assets commissioned in 2016 / 2017	2017		\$ -	\$ 1,000,000	\$ 355,543	7%	0.87	\$ 310,545		3351	21	20	19	
Assets commissioned in 2017 / 2018	2018		\$ -	\$ 1,500,000	\$ 533,315	7%	0.82	\$ 435,344		3373	22	20	18	
Assets commissioned in 2018 / 2019	2019		\$ -	\$ 11,000,000	\$ 3,910,976	7%	0.76	\$ 2,983,665		3395	22	20	17	
Assets commissioned in 2019 / 2020	2020		\$ -	\$ 11,000,000	\$ 3,910,976	7%	0.71	\$ 2,788,472		3417	22	19	16	
Assets commissioned in 2020 / 2021	2021		\$ -	\$ -	\$ -	7%	0.67	\$ -		3440	23	19	15	
Assets commissioned in 2021 / 2022	2022		\$ -	\$ -	\$ -	7%	0.62	\$ -		3525	85	69	53	
Assets commissioned in 2022 / 2023	2023		\$ -	\$ -	\$ -	7%	0.58	\$ -		3611	87	68	50	
Assets commissioned in 2023 / 2024	2024		\$ -	\$ -	\$ -	7%	0.54	\$ -		3700	89	68	48	
Assets commissioned in 2024 / 2025	2025		\$ -	\$ -	\$ -	7%	0.51	\$ -		3791	91	68	46	
Assets commissioned in 2025 / 2026	2026		\$ -	\$ -	\$ -	7%	0.48	\$ -		3884	93	67	44	
Assets commissioned in 2026 / 2027	2027		\$ -	\$ -	\$ -	7%	0.44	\$ -		3969	85	60	38	
Assets commissioned in 2027 / 2028	2028		\$ -	\$ -	\$ -	7%	0.41	\$ -		4056	87	59	36	
Assets commissioned in 2028 / 2029	2029		\$ -	\$ -	\$ -	7%	0.39	\$ -		4145	89	59	34	
Assets commissioned in 2029 / 2030	2030		\$ -	\$ -	\$ -	7%	0.36	\$ -		4236	91	58	33	
Assets commissioned in 2030 / 2031	2031		\$ -	\$ -	\$ -	7%	0.34	\$ -		4329	93	58	31	
Assets commissioned in 2031 / 2032	2032		\$ -	\$ 900,000	\$ 319,989	7%	0.32	\$ 101,300		4377	48	29	15	
Assets commissioned in 2032 / 2033	2033		\$ -	\$ 1,000,000	\$ 355,543	7%	0.30	\$ 105,192		4425	48	28	14	
Assets commissioned in 2033 / 2034	2034		\$ -	\$ 11,000,000	\$ 3,910,976	7%	0.28	\$ 1,081,417		4474	49	28	13	
Assets commissioned in 2034 / 2035	2035		\$ -	\$ 11,400,000	\$ 4,053,193	7%	0.26	\$ 1,047,422		4523	49	27	13	
Assets commissioned in 2035 / 2036	2036		\$ -	\$ -	\$ -	7%	0.24	\$ -		4573	50	27	12	
Assets commissioned in 2036 / 2037	2037		\$ -	\$ -	\$ -	7%	0.23	\$ -		4621	48	25	11	
Assets commissioned in 2037 / 2038	2038		\$ -	\$ -	\$ -	7%	0.21	\$ -		4669	48	25	10	
Assets commissioned in 2038 / 2039	2039		\$ -	\$ -	\$ -	7%	0.20	\$ -		4718	49	24	10	
Assets commissioned in 2039 / 2040	2040		\$ -	\$ -	\$ -	7%	0.18	\$ -		4768	50	24	9	
Assets commissioned in 2040 / 2041	2041		\$ -	\$ -	\$ -	7%	0.17	\$ -		4818	50	23	9	
Assets commissioned in 2041 / 2042	2042		\$ -	\$ -	\$ -	7%	0.16	\$ -		4869	51	23	8	
Assets commissioned in 2042 / 2043	2043		\$ -	\$ -	\$ -	7%	0.15	\$ -		4920	51	22	8	
Assets commissioned in 2043 / 2044	2044		\$ -	\$ -	\$ -	7%	0.14	\$ -		4972	52	22	7	
Assets commissioned in 2044 / 2045	2045		\$ -	\$ -	\$ -	7%	0.13	\$ -		5024	52	22	7	
Assets commissioned in 2045 / 2046	2046		\$ -	\$ -	\$ -	7%	0.12	\$ -		5062	38	15	5	
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ 48,800,000</b>	<b>\$ 19,980,764</b>				<b>\$ 8,853,357</b>	Future ET total	1779	1141		
									<b>\$ 11,619,804</b>			<b>1359</b>	<b>849</b>	<b>\$ 13,689</b>
											<b>TOTAL CAPITAL CHARGE PER ET</b>		<b>\$ 17,666</b>	

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
Construction Year <b>ROBERTSON</b>	Effective Commission	Capital Cost of Existing	Capital Cost for	Capital Cost for	Effective Capital Cost	Discount Rate for	PV Factor	PV of capital costs	Total PV of capital	Total ET	New ETs per	PV of new ETs	PV of new ETs	Capital Charge per
Percentage of capital works utilised by new ETs after 26%														
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1970	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1971	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1972	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1973	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1974	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1975	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1976	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1977	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1978	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1979	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1980	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1981	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1982	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1983	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1984	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1985	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1986	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1987	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1988	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1989	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1990	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1991	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1992	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1993	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1994	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1995	1996	\$ -			\$ -	3%	1.00	\$ -						
<b>Subtotal (Assets Pre 1996)</b>		<b>\$ -</b>			<b>\$ -</b>				<b>\$ -</b>		515			<b>\$ -</b>
<b>Post 1996 - Current Assets</b>														
Assets commissioned in 1996	1996	\$ -			\$ -	7%	1.00	\$ -			518	3	3	3
Assets commissioned in 1997	1997	\$ -			\$ -	7%	0.93	\$ -			522	3	3	3
Assets commissioned in 1998	1998	\$ -			\$ -	7%	0.87	\$ -			525	3	3	3
Assets commissioned in 1999	1999	\$ -			\$ -	7%	0.82	\$ -			528	3	3	3
Assets commissioned in 2000	2000	\$ -			\$ -	7%	0.76	\$ -			531	3	3	2
Assets commissioned in 2001	2001	\$ -			\$ -	7%	0.71	\$ -			534	3	3	2
Assets commissioned in 2002	2002	\$ -			\$ -	7%	0.67	\$ -			537	3	3	2
Assets commissioned in 2003	2003	\$ -			\$ -	7%	0.62	\$ -			540	3	3	2
Assets commissioned in 2004	2004	\$ -			\$ -	7%	0.58	\$ -			544	3	3	2
Assets commissioned in 2005	2005	\$ -			\$ -	7%	0.54	\$ -			547	3	2	2
Assets commissioned in 2006	2006	\$ -			\$ -	7%	0.51	\$ -			550	3	2	2
Assets commissioned in 2007	2007	\$ -			\$ -	7%	0.48	\$ -			553	3	2	2
Assets commissioned in 2008	2008	\$ -			\$ -	7%	0.44	\$ -			557	3	2	1
Assets commissioned in 2009	2009	\$ -			\$ -	7%	0.41	\$ -			560	3	2	1
Assets commissioned in 2010	2010	\$ -			\$ -	7%	0.39	\$ -			563	3	2	1
Assets commissioned in 2011	2011	\$ -			\$ -	7%	0.36	\$ -			566	3	2	1
Assets commissioned in 2012	2012	\$ 7,534,613			\$ 1,570,826	7%	0.34	\$ 532,093			570	3	2	1
Assets commissioned in 2013	2013	\$ 7,807,432			\$ 1,627,704	7%	0.32	\$ 515,289			573	3	2	1
Assets commissioned in 2014	2014	\$ 22,964			\$ 4,788	7%	0.30	\$ 1,416			576	3	2	1
Assets commissioned in 2015	2015	\$ 40,220			\$ 8,385	7%	0.28	\$ 2,319			580	3	2	1
<b>Subtotal (Past 1996 - Current Assets)</b>		<b>\$ 15,405,230</b>			<b>\$ 3,211,702</b>			<b>\$ 1,051,117</b>						
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ -	\$ -	7%	0.93	\$ -			583	3	3	3
Assets commissioned in 2016 / 2017	2017		\$ -	\$ -	\$ -	7%	0.87	\$ -			587	3	3	3
Assets commissioned in 2017 / 2018	2018		\$ -	\$ -	\$ -	7%	0.82	\$ -			590	3	3	3
Assets commissioned in 2018 / 2019	2019		\$ -	\$ -	\$ -	7%	0.76	\$ -			594	3	3	3
Assets commissioned in 2019 / 2020	2020		\$ -	\$ -	\$ -	7%	0.71	\$ -			597	3	3	2
Assets commissioned in 2020 / 2021	2021		\$ -	\$ -	\$ -	7%	0.67	\$ -			601	4	3	2
Assets commissioned in 2021 / 2022	2022		\$ -	\$ -	\$ -	7%	0.62	\$ -			604	4	3	2
Assets commissioned in 2022 / 2023	2023		\$ -	\$ -	\$ -	7%	0.58	\$ -			608	4	3	2
Assets commissioned in 2023 / 2024	2024		\$ -	\$ -	\$ -	7%	0.54	\$ -			611	4	3	2
Assets commissioned in 2024 / 2025	2025		\$ -	\$ -	\$ -	7%	0.51	\$ -			615	4	3	2
Assets commissioned in 2025 / 2026	2026		\$ -	\$ -	\$ -	7%	0.48	\$ -			619	4	3	2
Assets commissioned in 2026 / 2027	2027		\$ -	\$ -	\$ -	7%	0.44	\$ -			622	4	3	2
Assets commissioned in 2027 / 2028	2028		\$ -	\$ -	\$ -	7%	0.41	\$ -			626	4	2	2
Assets commissioned in 2028 / 2029	2029		\$ -	\$ -	\$ -	7%	0.39	\$ -			630	4	2	1
Assets commissioned in 2029 / 2030	2030		\$ -	\$ -	\$ -	7%	0.36	\$ -			633	4	2	1
Assets commissioned in 2030 / 2031	2031		\$ -	\$ -	\$ -	7%	0.34	\$ -			637	4	2	1
Assets commissioned in 2031 / 2032	2032		\$ -	\$ -	\$ -	7%	0.32	\$ -			641	4	2	1
Assets commissioned in 2032 / 2033	2033		\$ -	\$ -	\$ -	7%	0.30	\$ -			645	4	2	1
Assets commissioned in 2033 / 2034	2034		\$ -	\$ -	\$ -	7%	0.28	\$ -			648	4	2	1
Assets commissioned in 2034 / 2035	2035		\$ -	\$ -	\$ -	7%	0.26	\$ -			652	4	2	1

Wingecarribee Shire Council Sewerage DSP 2016

ConstructionYear (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
Assets commissioned in 2035 / 2036	2036				\$ -	7%	0.24	\$ -		656	4	2	1	
Assets commissioned in 2036 / 2037	2037				\$ -	7%	0.23	\$ -		660	4	2	1	
Assets commissioned in 2037 / 2038	2038				\$ -	7%	0.21	\$ -		664	4	2	1	
Assets commissioned in 2038 / 2039	2039				\$ -	7%	0.20	\$ -		668	4	2	1	
Assets commissioned in 2039 / 2040	2040				\$ -	7%	0.18	\$ -		672	4	2	1	
Assets commissioned in 2040 / 2041	2041				\$ -	7%	0.17	\$ -		676	4	2	1	
Assets commissioned in 2041 / 2042	2042				\$ -	7%	0.16	\$ -		680	4	2	1	
Assets commissioned in 2042 / 2043	2043				\$ -	7%	0.15	\$ -		684	4	2	1	
Assets commissioned in 2043 / 2044	2044				\$ -	7%	0.14	\$ -		688	4	2	1	
Assets commissioned in 2044 / 2045	2045				\$ -	7%	0.13	\$ -		692	4	2	1	
Assets commissioned in 2045 / 2046	2046				\$ -	7%	0.12	\$ -		696	4	2	1	
<b>Subtotal (Future Assets)</b>			\$ -	\$ -	\$ -				\$ -	Future ET total	116	74		
									\$ 1,051,117					
											<b>123</b>	<b>82</b>	\$ 12,889	
											<b>TOTAL CAPITAL CHARGE PER ET</b>		<b>\$ 14,373</b>	

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>SHARED ASSETS</b>														
Percentage of capital works utilised by new ETs after					30%									
Assets commissioned in 1969	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1970	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1971	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1972	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1973	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1974	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1975	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1976	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1977	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1978	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1979	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1980	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1981	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1982	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1983	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1984	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1985	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1986	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1987	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1988	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1989	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1990	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1991	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1992	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1993	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1994	1996	\$ -			\$ -	3%	1.00	\$ -						
Assets commissioned in 1995	1996	\$ -			\$ -	3%	1.00	\$ -		16475				
<b>Subtotal (Assets Pre 1996)</b>		\$ -			\$ -				\$ -					\$ -
<b>Post 1996 - Current Assets</b>														
Assets commissioned in 1996	1996	\$ -			\$ -	7%	1.00	\$ -		16589	114	114	114	
Assets commissioned in 1997	1997	\$ -			\$ -	7%	0.93	\$ -		16704	115	111	107	
Assets commissioned in 1998	1998	\$ -			\$ -	7%	0.87	\$ -		16819	115	109	101	
Assets commissioned in 1999	1999	\$ -			\$ -	7%	0.82	\$ -		16935	116	106	95	
Assets commissioned in 2000	2000	\$ -			\$ -	7%	0.76	\$ -		17052	117	104	89	
Assets commissioned in 2001	2001	\$ -			\$ -	7%	0.71	\$ -		17170	118	102	84	
Assets commissioned in 2002	2002	\$ -			\$ -	7%	0.67	\$ -		17289	119	99	79	
Assets commissioned in 2003	2003	\$ -			\$ -	7%	0.62	\$ -		17408	120	97	74	
Assets commissioned in 2004	2004	\$ -			\$ -	7%	0.58	\$ -		17529	120	95	70	
Assets commissioned in 2005	2005	\$ -			\$ -	7%	0.54	\$ -		17650	121	93	66	
Assets commissioned in 2006	2006	\$ -			\$ -	7%	0.51	\$ -		17772	122	91	62	
Assets commissioned in 2007	2007	\$ -			\$ -	7%	0.48	\$ -		17895	123	89	58	
Assets commissioned in 2008	2008	\$ -			\$ -	7%	0.44	\$ -		18019	124	87	55	
Assets commissioned in 2009	2009	\$ -			\$ -	7%	0.41	\$ -		18144	125	85	52	
Assets commissioned in 2010	2010	\$ -			\$ -	7%	0.39	\$ -		18270	126	83	49	
Assets commissioned in 2011	2011	\$ -			\$ -	7%	0.36	\$ -		18397	127	81	46	
Assets commissioned in 2012	2012	\$ -			\$ -	7%	0.34	\$ -		18524	128	80	43	
Assets commissioned in 2013	2013	\$ -			\$ -	7%	0.32	\$ -		18653	129	78	41	
Assets commissioned in 2014	2014	\$ -			\$ -	7%	0.30	\$ -		18782	129	76	38	
Assets commissioned in 2015	2015	\$ -			\$ -	7%	0.28	\$ -		19003	220	125	61	
<b>Subtotal (Past 1996 - Current Assets)</b>		\$ -			\$ -				\$ -					\$ -

Construction Year (All in 2013/14\$)	Effective Commission Year	Capital Cost of Existing Assets (\$)	Capital Cost for Renewals (\$)	Capital Cost for New Works (\$)	Effective Capital Cost (\$)	Discount Rate for ROI (%)	PV Factor	PV of capital costs (\$)	Total PV of capital costs (\$)	Total ET	New ETs per year	PV of new ETs (@3%)	PV of new ETs (@7%)	Capital Charge per ET (\$)
<b>Future Assets</b>														
Assets commissioned in 2015 / 2016	2016		\$ -	\$ 965,000	\$ 343,099	7%	0.93	\$ 320,653		19224	222	215	207	
Assets commissioned in 2016 / 2017	2017		\$ -	\$ 1,445,000	\$ 513,760	7%	0.87	\$ 448,738		19431	207	195	181	
Assets commissioned in 2017 / 2018	2018		\$ -	\$ 1,735,000	\$ 616,868	7%	0.82	\$ 503,548		19641	210	192	172	
Assets commissioned in 2018 / 2019	2019		\$ -	\$ 1,365,000	\$ 485,317	7%	0.76	\$ 370,246		19855	213	189	163	
Assets commissioned in 2019 / 2020	2020		\$ -	\$ 1,335,000	\$ 474,650	7%	0.71	\$ 338,419		20071	216	187	154	
Assets commissioned in 2020 / 2021	2021		\$ -	\$ 1,335,000	\$ 474,650	7%	0.67	\$ 316,279		20290	219	184	146	
Assets commissioned in 2021 / 2022	2022		\$ -	\$ 1,365,000	\$ 485,317	7%	0.62	\$ 302,231		20418	128	104	80	
Assets commissioned in 2022 / 2023	2023		\$ -	\$ 1,335,000	\$ 474,650	7%	0.58	\$ 276,251		20547	129	102	75	
Assets commissioned in 2023 / 2024	2024		\$ -	\$ 1,335,000	\$ 474,650	7%	0.54	\$ 258,178		20677	130	100	71	
Assets commissioned in 2024 / 2025	2025		\$ -	\$ 1,365,000	\$ 485,317	7%	0.51	\$ 246,710		20808	131	98	67	
Assets commissioned in 2025 / 2026	2026			\$ 1,335,000	\$ 474,650	7%	0.48	\$ 225,503		20941	132	96	63	
Assets commissioned in 2026 / 2027	2027			\$ 1,335,000	\$ 474,650	7%	0.44	\$ 210,750		21063	122	86	54	
Assets commissioned in 2027 / 2028	2028			\$ 1,365,000	\$ 485,317	7%	0.41	\$ 201,389		21186	123	84	51	
Assets commissioned in 2028 / 2029	2029			\$ 1,335,000	\$ 474,650	7%	0.39	\$ 184,078		21310	124	82	48	
Assets commissioned in 2029 / 2030	2030			\$ 1,335,000	\$ 474,650	7%	0.36	\$ 172,035		21434	125	80	45	
Assets commissioned in 2030 / 2031	2031			\$ 1,365,000	\$ 485,317	7%	0.34	\$ 164,393		21560	125	78	43	
Assets commissioned in 2031 / 2032	2032			\$ 1,335,000	\$ 474,650	7%	0.32	\$ 150,262		21693	133	80	42	
Assets commissioned in 2032 / 2033	2033			\$ 1,335,000	\$ 474,650	7%	0.30	\$ 140,432		21826	134	79	40	
Assets commissioned in 2033 / 2034	2034			\$ 1,365,000	\$ 485,317	7%	0.28	\$ 134,194		21961	135	77	37	
Assets commissioned in 2034 / 2035	2035			\$ 1,335,000	\$ 474,650	7%	0.26	\$ 122,659		22096	135	75	35	
Assets commissioned in 2035 / 2036	2036				\$ -	7%	0.24	\$ -		22233	136	73	33	
Assets commissioned in 2036 / 2037	2037				\$ -	7%	0.23	\$ -		22370	137	72	31	
Assets commissioned in 2037 / 2038	2038				\$ -	7%	0.21	\$ -		22508	138	70	29	
Assets commissioned in 2038 / 2039	2039				\$ -	7%	0.20	\$ -		22647	139	68	27	
Assets commissioned in 2039 / 2040	2040				\$ -	7%	0.18	\$ -		22787	140	67	26	
Assets commissioned in 2040 / 2041	2041				\$ -	7%	0.17	\$ -		22928	141	65	24	
Assets commissioned in 2041 / 2042	2042				\$ -	7%	0.16	\$ -		23069	142	64	23	
Assets commissioned in 2042 / 2043	2043				\$ -	7%	0.15	\$ -		23212	143	62	21	
Assets commissioned in 2043 / 2044	2044				\$ -	7%	0.14	\$ -		23356	144	61	20	
Assets commissioned in 2044 / 2045	2045				\$ -	7%	0.13	\$ -		23501	145	60	19	
Assets commissioned in 2045 / 2046	2046				\$ -	7%	0.12	\$ -		23648	147	59	18	
<b>Subtotal (Future Assets)</b>			<b>\$ -</b>	<b>\$ 27,020,000</b>	<b>\$ 8,195,156</b>				<b>\$ 5,086,948</b>	Future ET total	4645	3102		
									<b>\$ 5,086,948</b>			<b>5008</b>	<b>3429</b>	<b>\$ 1,484</b>
											<b>TOTAL CAPITAL CHARGE PER ET \$ 1,484</b>			



**Table 2: Wingecarribee Shire Council Sewerage Capital Works Program**

Current Year 2015 /16					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Project	ILOS	GROWTH	CAPITAL WORKS IN 2015/16 \$'000		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	
			New Works (Improve LOS+ Growth)	RENEW	Total																				
<b>A - NEW WORKS - BACKLOG</b>																									
Robertson sewer Scheme	100%		100%																						
Yerribool Sewer Scheme	100%		100%																						
Eveler Sewer Scheme	100%		100%																						
Burrawang Sewer Scheme	100%		100%																						
Penrose & Wingello Sewer Scheme	100%		100%																						
Balmoral Sewer Scheme	100%		100%																						
<b>B - NEW WORKS - GROWTH</b>																									
Bowral STP Upgrade to 16000 EP		100%	100%		26,900	800	1000	10500	10500		300		3800												
Moss Vale STP Stage 1 Upgrade to 13500 EP		100%	100%		24,500		1000	1500	11000	11000															
Mitigong STP Upgrade to 20000 EP		100%	100%		24,900							1000	1500	11200	11200										
Moss Vale STP Stage 2 Upgrade to 27000 EP		100%	100%		24,300																	900	1000	11000	11400
Robertson STP Upgrade to 3000 EP		100%	100%		0																				
Main capacity upgrde for growth & FRP		100%	100%		2,900	100	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Pump Station capacity upgrade for growth & FRP		100%	100%		2,295	75	120	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
Private Works - Extension & connection		100%	100%		2,250	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
<b>C - NEW WORKS - OTHER (Performance Improvements)</b>																									
STP upgrades / improvements		100%	100%		6,560	200	350	800	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Pump Station upgrades / improvements		100%	100%		1,885	85	100	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	
Telemetry System upgrade 66734		100%	100%		270	30			30			30					30				30			30	
<b>D - RENEWALS</b>																									
STP Asset renewal			100%		5,950	150	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Pump station asset renewal			100%		5,050	100	450	450	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
Pump replacements			100%		2,975	75	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Reticulation - Mains / Service Lines		50%	50%		47,250	800	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Vent pipe replacement			100%		605	25	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Plant replacement			100%		5,250	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	
Lease vehicle replacement			100%		1,500	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Telemetry component renewal 66734			100%		2,150	200	900	200	200	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
Sewer Manhole Renewals			100%		6,900	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
<b>GRAND TOTAL</b>					<b>193,440</b>	<b>3,140</b>	<b>6,340</b>	<b>15,930</b>	<b>24,760</b>	<b>14,055</b>	<b>3,355</b>	<b>4,085</b>	<b>8,355</b>	<b>14,255</b>	<b>14,285</b>	<b>3,055</b>	<b>3,055</b>	<b>3,085</b>	<b>3,055</b>	<b>3,055</b>	<b>3,085</b>	<b>3,955</b>	<b>4,055</b>	<b>14,085</b>	<b>14,455</b>

**Table Sewerage - Calculation of Developer Charges using the NPV of Annual Charges Method  
Based on Input Reduction Amounts of #### /ET (2nd iteration)**

**Wingecarribee Shire Council - Sewerage**

Year	Year No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
	Year	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	
<b>Developer Charges</b>																						
	Year 1	2015/16																				
	Base Year	2015/16																				
	Average Capital Charges per ET (2015/16\$)	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	14,849	
	Inflation from Base year to Year 1 (%)	0.00%																				
	Capital Charge (2015/16\$)	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	14,850	
	<b>Input Reduction Amounts (2015/16\$)</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>5,420</b>	<b>5,518</b>	<b>5,633</b>	<b>5,734</b>	<b>6,166</b>	<b>6,616</b>	<b>6,773</b>	<b>6,906</b>	<b>7,017</b>	<b>7,120</b>	<b>7,241</b>	<b>7,327</b>	<b>7,390</b>	<b>7,429</b>	<b>7,474</b>	
	Developer Charge per ET (2015/16\$)	10,160	10,160	10,160	10,160	10,160	9,430	9,330	9,220	9,120	8,680	8,230	8,080	7,940	7,830	7,730	7,610	7,520	7,460	7,420	7,380	
	Developer Charges per assessment- Residential (2015/16\$)	10,160	10,160	10,160	10,160	10,160	9,430	9,330	9,220	9,120	8,680	8,230	8,080	7,940	7,830	7,730	7,610	7,520	7,460	7,420	7,380	
	Developer Charges per assessment- Non-Residential (2015/16\$)	10,160	10,160	10,160	10,160	10,160	9,430	9,330	9,220	9,120	8,680	8,230	8,080	7,940	7,830	7,730	7,610	7,520	7,460	7,420	7,380	
<b>Assessments &amp; ETs</b>																						
		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
	Residential Assessments at year end	16,243	16,458	16,656	16,858	17,062	17,270	17,480	17,663	17,848	18,037	18,228	18,423	18,599	18,778	18,959	19,143	19,329	19,478	19,629	19,781	19,934
	Non Residential Assessments at year end	893	901	917	934	950	967	984	1,000	1,016	1,032	1,048	1,065	1,082	1,098	1,115	1,132	1,150	1,166	1,182	1,199	1,216
	Backlog Assessments at year end	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Assessments at year end	17,136	17,359	17,574	17,791	18,012	18,237	18,464	18,662	18,864	19,069	19,277	19,488	19,681	19,876	20,074	20,275	20,478	20,644	20,811	20,980	21,150
	ET per Residential Assessment	1																				
	ET per Non Residential Assessment	1																				
	Total ETs	17,136	17,359	17,574	17,791	18,012	18,237	18,464	18,662	18,864	19,069	19,277	19,488	19,681	19,876	20,074	20,275	20,478	20,644	20,811	20,980	21,150
	New ETs per year (excluding backlog)	-	223	215	218	221	224	228	198	201	205	208	211	193	195	198	201	204	166	167	169	170
	Cumulative New ETs (excluding backlog)	-	223	438	655	876	1,101	1,328	1,526	1,728	1,933	2,141	2,352	2,545	2,740	2,938	3,139	3,342	3,508	3,675	3,844	4,014
	<b>PV (new ETs excluding backlog) 30 years @ 7% pa</b>	-	2,673	2,645	2,625	2,600	2,569	2,533	2,490	2,476	2,458	2,435	2,407	2,373	2,357	2,337	2,312	2,283	2,249	2,253	2,256	2,257
<b>Revenue and Expenditure</b>																						
	Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant																					
	Revenue (\$'000) (2015/16\$)	14,296	14,827	14,987	15,168	15,349	15,523	15,682	15,841	16,011	16,192	16,365	16,528	16,700	16,864	17,019	17,197	17,332	17,474	17,605	17,755	
	OMA Expenditure (\$'000) (2015/16\$)	9,269	8,938	8,781	8,649	10,088	9,746	9,565	9,396	9,822	10,161	9,983	9,819	9,653	9,486	9,345	9,202	9,060	8,915	8,776	8,643	
	Revenue less OMA Expenditure (\$'000)	5,027	5,889	6,206	6,519	5,261	5,777	6,117	6,445	6,189	6,031	6,382	6,709	7,047	7,378	7,674	7,995	8,272	8,559	8,829	9,112	
	Revenue less OMA Expenditure for new ETs (\$'000)	65	147	229	269	317	416	500	590	627	670	770	867	971	1,080	1,188	1,305	1,406	1,512	1,618	1,729	
	<b>PV (Revenue less OMA Expenditure for new ETs) 30 years @ 7% pa (\$'000)</b>	11,745	12,082	12,196	12,322	13,060	13,727	13,743	13,949	14,095	15,013	15,924	16,072	16,277	16,398	16,462	16,532	16,479	16,649	16,758	16,869	
	<b>Output (calculated) Reduction Amounts</b>	<b>4,394</b>	<b>4,567</b>	<b>4,647</b>	<b>4,740</b>	<b>5,084</b>	<b>5,420</b>	<b>5,518</b>	<b>5,633</b>	<b>5,734</b>	<b>6,166</b>	<b>6,616</b>	<b>6,773</b>	<b>6,906</b>	<b>7,017</b>	<b>7,120</b>	<b>7,241</b>	<b>7,327</b>	<b>7,390</b>	<b>7,429</b>	<b>7,473.5</b>	
	<b>Average Calculated Reduction for a 5 yr Period</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>4,686</b>	<b>5,420</b>	<b>5,518</b>	<b>5,633</b>	<b>5,734</b>	<b>6,166</b>	<b>6,616</b>	<b>6,773</b>	<b>6,906</b>	<b>7,017</b>	<b>7,120</b>	<b>7,241</b>	<b>7,327</b>	<b>7,390</b>	<b>7,429</b>	<b>7,473.5</b>	
	<b>% Difference Between the Input and Output</b>	<b>0%</b>																				

**Difference Less Than 2%, Calculation Complete  
Developer Charges for the first 5 years = \$10160 in year 2015/16 dollars**

**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.

## Appendix E Outline of Legislation

(Source: Developer Charges Guidelines for Water Supply, Sewerage and Stormwater 2002 and Developer Charges Guidelines for Water Supply, Sewerage and Stormwater 2012 – Consultation Draft)

### **Local Government Act 1993**

The power for local government councils to levy developer charges for water supply, sewerage and stormwater derives from section 64 of the *Local Government Act 1993* by means of a cross-reference in that Act to the relevant provisions of the *Water Management Act 2000*.

Section 64 of the *Local Government Act* states that:

Division 5 of Part 2 of Chapter 6 of the *Water Management Act 2000* applies to a council exercising functions under this Division in the same way as it applies to a water supply authority exercising functions under that Act.

### **Environmental Planning and Assessment Act 1979**

Prior to the introduction of the *Local Government Act* in 1993, councils used the provisions of section 94 of the Environmental Planning and Assessment Act 1979 to obtain developer contributions for water supply and sewerage services. As part of the *Local Government (Consequential Provisions) Act 1993*, amendment was made to the Environmental Planning and Assessment Act so that section 94 no longer applied for water supply and sewerage services.

However, Councils can levy developer charges for stormwater under either *Local Government Act* or *Water Management Act*.

### **Water Management Act 2000**

Section 305 (1) and (2) of the *Water Management Act* states that:

- 1) A person may apply to a water supply authority for a certificate of compliance for development carried out, or proposed to be carried out, within the water supply authority's area.
- 2) as a pre-condition to granting a certificate of compliance for development, a water supply authority may, by notice in writing served on the applicant, require the applicant to do either or both of the following:
  - a) to pay a specified amount to the Authority by way of contribution towards the cost of such water management works as are specified in the notice, being existing works or projected works, or both,
  - b) to construct water management works to serve the development.

Section 305 (3) of the *Water Management Act* states that:

- 3) In calculating an amount for the purposes of subsection (2) (a):
  - a) the value of existing water management works and the estimated cost of projected water management works may be taken into consideration, and
  - b) the amount of any government subsidy or similar payment is not to be deducted from the relevant value or cost of the water management works, and
  - c) consideration is to be given to any guidelines issued for the time being for the purposes of this section by the Minister.

In 2011, the Minister for Primary Industries became responsible for non-metropolitan NSW town water services. The Minister is responsible for the issue of guidelines for water utilities on the calculation of water supply, sewerage and stormwater developer charges.

Note: Use of moneys raised from developer charges is discussed in section 2.7 on page 10 of the guidelines.

#### **Local Government (Savings and Transitional) Regulation 1993**

The *Local Government (Savings and Transitional) Regulation 1993* covers the matter of developer contributions which had previously been obtained by councils under the *Environmental Planning and Assessment Act* as follows:

- 9) Any monetary contribution held by a council immediately before the commencement of this Regulation, being a contribution arising from a condition:
  - (a) that was imposed under section 94 of the *Environmental Planning and Assessment Act 1979*; and
  - (b) that specifies that the contribution is to be applied towards providing specified water or sewerage services or towards providing water or sewerage services generally, is to be applied towards the construction of works within the meaning of Division 2 of Part 3 of the *Water Supply Authorities Act 1987*, or towards the repayment of money borrowed for the construction of such works, and is not to be applied towards any other purpose.

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