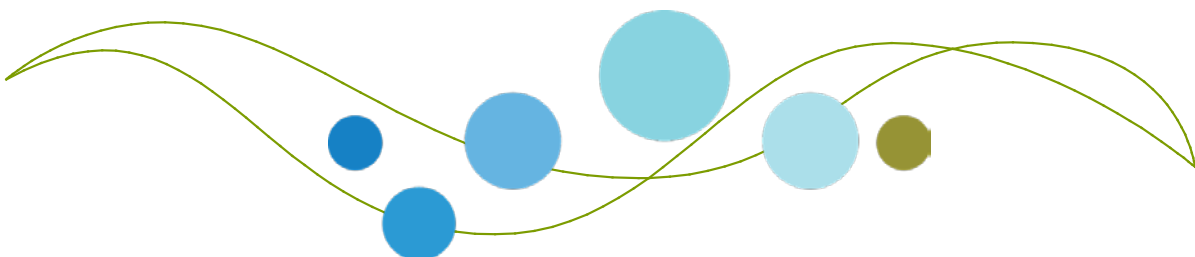


Development Servicing Plans for Water Supply and Sewerage




June 2017



MidCoast Water

Development Servicing Plans for Water Supply and Sewerage 2017

Document Control

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Executive Summary

These Development Servicing Plans cover water and sewerage developer charges for the areas serviced by MidCoast Water, within the MidCoast Council Local Government Area, formerly the Greater Taree City Council, Great Lakes Council and Gloucester Shire Council areas. MidCoast Water's water and sewerage service areas are shown in plans contained in Appendix A and Appendix B.

These six Development Servicing Plans (DSPs) have been prepared giving consideration to the *2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater*, issued by the NSW Department of Primary Industries Water (DPI Water).

The water supply and sewerage developer charges for the areas covered by these DSPs have been determined as follows.

Table 1: Developer charges

Service Area	DSP Name	Developer Charges (2017-18 \$ per ET)	Cross-subsidy: Resulting increase in the Average Annual Bill
Water Supply			
Stroud	WDSP1	\$5,970	\$0.53
Manning Tea Gardens/Hawks Nest Bulahdelah Gloucester	WDSP2		
North Karuah	WDSP3		
Sewer Service			
Stroud Coopernook Bulahdelah Lansdowne	SDSP1	\$8,236	\$0.97
Harrington Old Bar Taree Manning Point Forster Wingham Gloucester	SDSP2		
Hawks Nest Hallidays Point North Karuah	SDSP3		

The charges will be indexed on 1st July each year on the basis of movements in the consumer price index for Sydney. The developer charges calculated in these Development Servicing Plans will be reviewed after four to eight years. The existing assets and the timing and expenditures for new water supply and sewerage infrastructure works that will serve the area covered by these DSPs are shown in Section 5. The levels of service to be provided in the DSP areas are summarised in Section 6.

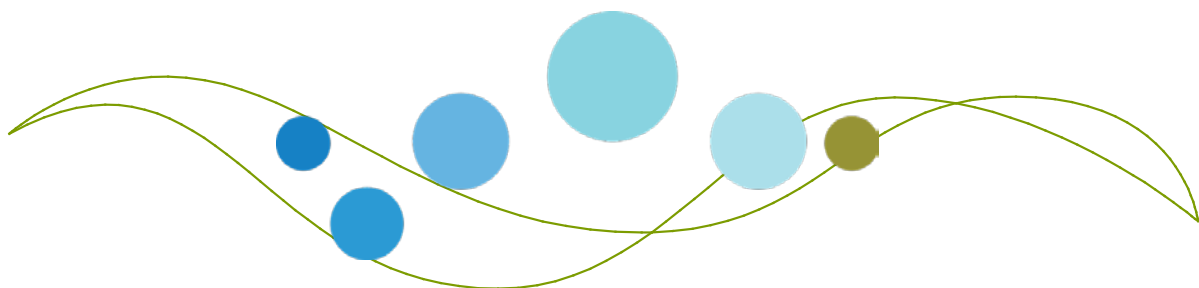
The developer shall be responsible for the full cost of the design and construction of water supply and sewerage reticulation works within subdivisions.

Background documentation containing all the critical data including calculation models behind each scheme is available in electronic format on request.

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1 Introduction

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

Developer charges cover part of the cost of providing water supply and sewerage infrastructure to new development and redevelopment (i.e. change of use). Developer charges have two related functions:

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

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*.

This DSP document covers water supply and sewerage developer charges in regard to the development areas served by MidCoast Water.

MidCoast Water is not a member of the Energy and Water Ombudsman (EWON).

These DSPs cover water supply and sewerage developer charges for the areas serviced by MidCoast Water as shown in Figure 1, Section 4 and in more detail in the maps contained in Appendix A and Appendix B.

The MidCoast Water area is currently serviced by six water supply schemes and 14 sewerage schemes. The existing and proposed works serving the area are detailed in the Growth Servicing Plan and the servicing strategies for each scheme.

Water Supply Schemes

- Bulahdelah Water Supply Scheme
- Gloucester Water Supply
- Manning Water Supply Scheme
- North Karuah Water Supply Scheme
- Stroud Water Supply Scheme
- Tea Gardens/Hawks Nest Water Supply Scheme

Sewerage Schemes

- Bulahdelah Sewerage Scheme
- Coopernook Sewerage Scheme
- Forster/Pacific Palms Sewerage Scheme
- Gloucester Sewerage Scheme
- Hallidays Point Sewerage Scheme
- Harrington Sewerage Scheme
- Lansdowne Sewerage Scheme
- Manning Point Sewerage Scheme
- North Karuah Sewerage Scheme
- Old Bar Sewerage Scheme
- Stroud Sewerage Scheme
- Taree Sewerage Scheme
- Tea Gardens/Hawks Nest Sewerage Scheme
- Wingham Sewerage Scheme

These DSPs aims to achieve the following objectives:

- Allow MidCoast Water to levy an equitable monetary contribution for the provision of water supply and sewerage infrastructure to meet the demands generated by new development and redevelopment.
- Facilitate the future provision of water supply to the local government areas serviced by MidCoast Water that meets the required levels of service with regard to drinking water compliance, customer satisfaction and scheme reliability.
- Facilitate the future provision of sewerage services to the local government areas serviced by MidCoast Water that meets the required levels of service with regard to environmental compliance, customer satisfaction and scheme reliability.
- Set out the schedule and programme of proposed works to meet increasing demands for water supply and sewerage services generated by development.
- Detail the contribution rates and MidCoast Water's payment policies.

These DSPs have been prepared in accordance with *the 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* issued by DPI Water, hereafter referred to as the Guidelines. However, these DSPs do deviate from the guidelines in that a discount rate of 6.53% has been used instead 5% for post-1996 assets. This is explained further in Section 8.1.

This document is to be registered with DPI Water.

These DSPs supersede the *MidCoast Water Development Servicing Plan for Water Supply and Sewerage 2006*. These DSPs take precedence over any of MidCoast Water's codes or policies where there are any inconsistencies relating to water supply and sewerage developer charges.

2 Glossary and Abbreviations

Below is a list of some terms used in DSPs.

Abbreviations	Definitions
Annual Bill	LWUs annual water supply or sewerage bill for an annual demand of one Equivalent Tenement (ET).
Asset	An asset (or part of an asset) including land and head-works assets that directly provides, or will provide, the developer services to developments within the DSP area for which the Developer Charge is payable
ADWF	Average dry weather flow. One of the design parameters for flow in sewers.
Annual Demand	The total water demand over a year. Used to size headworks components.
BOD	Biochemical oxygen demand. Used as a measure of the 'strength' of sewage.
Capital Cost	The Present Value (determined in accordance with Australian Accounting Standard AASB 116) of all expenditure on assets used to service the development.
Capital Charge	Capital cost of assets per ET adjusted for commercial return on investment (ROI).
CP	Section 94 Contributions Plan.
CPI	Consumer price index.
Developer Charge (DC)	Charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development.
Development Area	See DSP area.
Discount Rate	The rate used to calculate the present value of money arising in the future.
DPI	Department of Primary Industries.
DSP	Development Servicing Plan .
DSP area	That part of a water utility's area covered by a particular Development Servicing Plan. Also referred to as Development Area.
EP	Equivalent Persons (or equivalent population). Used as a design parameter for loadings of sewage treatment works.
ET	Equivalent tenement. The annual demand a detached residential dwelling will place on the infrastructure in terms of the water consumption or sewage discharge.
GSP	Growth Servicing Plan.
GST	Goods and services tax.
Headworks	Significant assets at the top end of the water systems or the bottom end of the wastewater and stormwater system. For example water head-works may comprise a water treatment plant, pump station and reservoirs.
IPART	The NSW Independent Pricing and Regulatory Tribunal.
kL	Kilolitre (1,000 litres).

Abbreviations	Definitions
LGNSW	Local Government NSW.
LWU	Local water utility (NSW). Excludes Sydney Water Corporation, Hunter Water Corporation, Central Coast Council, Essential Water and Fish River Water Supply.
ML	Megalitre (1,000,000 litres, or 1,000 kilolitres)
Net Income	Annual bill minus operation, maintenance and administration cost per ET.
NOW	NSW Office of Water (replaced by DPI Water since July 2015)
NPV	Net present value means the difference between the Present Value of a revenue stream and the Present Value of a cost stream.
OMA	Operation, maintenance and administration (cost).
Peak Day Demand	The maximum demand in any one day of the year. Used to size water treatment works, service reservoirs, trunk mains and pumping stations in the distribution system.
Operating cost	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.
Periodic bills	The periodic bills (generally quarterly) levied by a LWU in accordance with their annual operational plan.
Post 1996 Asset	An asset that was commissioned by a LWU on or after 1 January 1996 or that is yet to be commissioned.
Pre-1996 Asset	An asset that was commissioned by a LWU before 1 January 1996.
PV	Present value. The current value of future money or ETs.
PWWF	Peak wet weather flow. One of the design parameters of flow in sewers.
Real Terms	The value of a variable adjusted for inflation by a CPI adjustment.
Reduction Amount	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.
ROI	Return on investment. Represents the income that is, or could be, generated by investing money.
Scheme	A separate water treatment plant or sewerage treatment plant.
Service Area	An area serviced by a separate water supply scheme, an area served by a separate sewage treatment plant, a separate small town or village, or a new development of over 500 ETs.
System	A smaller component of a scheme that provides water supply and/or sewerage services to a town or community.
SS	Suspended solids, or the concentration of particles in sewage. Used as a measure of the 'strength' of sewage.
STP	Sewage treatment plant.
TRB	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.
WTP	Water treatment plant.

3 Administration

This document applies to all land within MidCoast Water's service areas which is to be connected to MidCoast Water's water supply system and/or sewerage service as a result of development.

This includes connection of land with existing residences and/or non-residential building if water or sewerage developer charges have not been paid previously, and may be in addition to costs for shared, or special extension of system outside the general water or sewerage benefit areas.

3.1 DSP Name and Area Covered

The guidelines specify that DSP areas may be determined as follows:

- Where an area is served by a separate water supply distribution system.
- Where an area is served by a separate sewage treatment works.
- A separate small town or village.
- A new development over 500 lots.
- An area with a dual water supply system or using alternative technologies (e.g. a vacuum sewerage system or a pressure sewerage system).

The basis used by MidCoast Water for defining the DSP areas boundaries in this document is the existing and future development serviced by MidCoast Water where an area is served by a separate water supply scheme and/or a separate sewage treatment plant. Any development outside the water supply and sewerage service areas will require a special agreement with MidCoast Water.

3.1.1 Water and Sewer Service Areas

MidCoast Water's service area encompasses six water service areas, each defined by separate water supply schemes.

- Bulahdelah
- Gloucester
- Manning
- North Karuah¹
- Stroud
- Tea Gardens/Hawks Nest

Similarly, there are 14 sewerage service areas, each defined by separate sewerage treatment plants.

- Bulahdelah
- Coopernook
- Forster
- Gloucester
- Hallidays Point
- Harrington
- Hawks Nest
- Lansdowne
- Manning Point
- North Karuah²
- Old Bar
- Stroud
- Taree
- Wingham

¹ Karuah Water Treatment Plant is managed and owned by Hunter Water. MidCoast Water's DSP charge applies only to water assets located in North Karuah.

² Karuah Sewage Treatment Plant is managed and owned by Hunter Water. MidCoast Water's DSP charge applies only to sewage assets located in North Karuah.

Figure 1 indicates MidCoast Water's water supply and sewerage service areas. Service to the areas is provided by the water supply and sewerage servicing schemes. Within each of the schemes are smaller systems which provide services to individual towns and communities. For example the Hallidays Point Sewerage Scheme is made up of the Hallidays Point Sewerage System, Nabic Sewerage System, Tuncurry Sewerage System and the Wallamba Sewerage System.

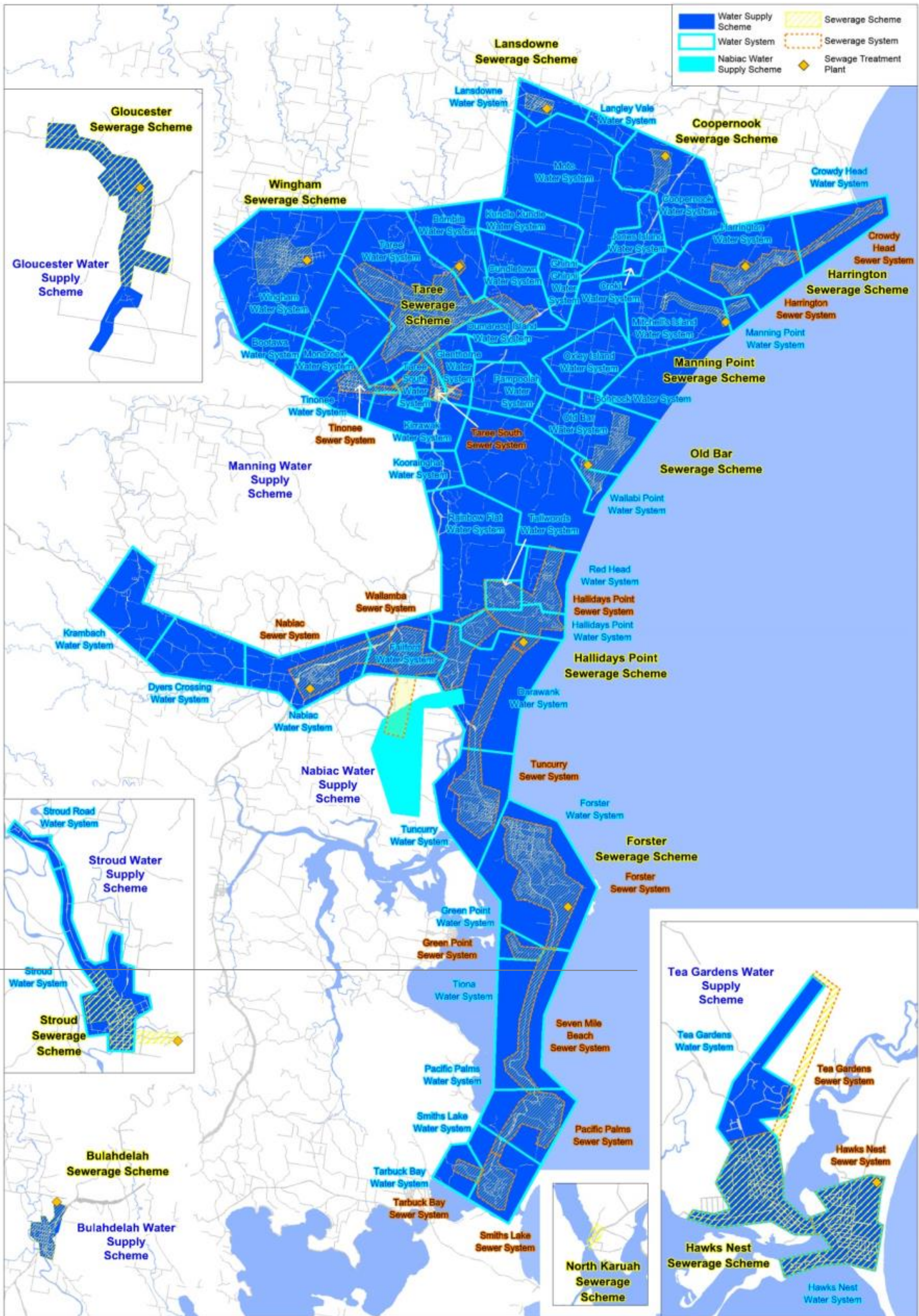


Figure 1: MidCoast Water Service Area

3.2 Application of Developer Charges

Developer charges will be levied to all development and redevelopment (change of use) of land within the service areas listed in Section 3.1.1 that are serviced by water supply and/or sewerage. MidCoast Water will assess the demand for service in terms of ETs in accordance with the MidCoast Water Equivalent Tenement Policy and will levy developer charges proportional to the number of ETs assessed. The developer charges will apply to new development and re-development (i.e. change of use).

3.3 Time & Payment of Developer Charges

Payment of a developer charge is a precondition to the granting of a Certificate of Compliance under section 305 of the *Water Management Act 2000* (or a Construction Certificate under section 109 of the *Environmental Planning and Assessment Act 1979*), which must be obtained in order to complete a development. A Certificate of Compliance will not be issued until the developer charge payment has been received.

MidCoast Water will issue a Notice of Payment of Developer Charges at the time of assessing a development application or other type of application or when MidCoast Water becomes aware of a proposed change of use.

If payment is made within the financial year coinciding with the date of the notice, no further charges will apply for the development. If payment is not received before the end of the financial year coinciding with the date of notice, a payment will be required prior to issue of Certificate of Compliance and the charge will be recalculated in accordance with the developer charges valid at that time.

3.4 Review

Developer charges relating to these DSPs shall be reviewed every six to eight years. A shorter review period is permitted if a major change in circumstances occurs.

3.5 Indexation

The developer charges will be adjusted on 1 July each year on the basis of movements in the CPI for Sydney.

4 Demographic and Land Use Planning Information

MidCoast Water delivers water and sewerage services to over 40,000 households in the Manning, Great Lakes and Gloucester communities of NSW.

MidCoast Water operates five water treatment plants and 13 sewage treatment plants in the local government area, supplying 8 billion litres of water a year between Karuah in the south, Harrington and Lansdowne in the north and Gloucester in the west.

4.1 Equivalent Tenements

An ET is the basic unit of measure to quantify the demand or loading on water supply or sewerage systems respectively. One ET represents the equivalent demand or loading from a standard detached residential dwelling.

The occupancy ratio of a standard residential allotment in the MidCoast Water service areas has been taken from 2011 ABS Census data.

Table 2: Occupancy ratio for MidCoast Water service areas

Service Area	Occupancy Ratio (EP/ET)
Bulahdelah	2.3
Coopernook	2.3
Forster	2.2
Gloucester	2.1
Hallidays Point	1.8
Harrington	2.1
Hawks Nest/Tea Gardens	1.9/2.1 ~ 2.0
Lansdowne	2.5
Manning Point	1.8
North Karuah ²	2.1
Old Bar	2.3
Stroud	2.5
Taree	2.3
Wingham	2.4

A comprehensive review of ETs was carried out as part of the 2016 servicing strategy review. Residential lots were counted as one ET each, with various multipliers for non-residential properties or for high-density housing, in line with MidCoast Water's Equivalent Tenement Policy (available at <http://www.midcoastwater.com.au/site/public-exhibition>).

Starting with a network trace for each catchment area (returns a count of the number of existing connection points) this was then adjusted to account for vacant blocks, and the other multipliers listed above.

Using this methodology, an ET value for each sewerage service and water supply area was returned.

4.2 Growth Projections

4.2.1 Forecast Growth

A summary of the forecast growth in the water supply and sewerage service areas is detailed in Table 3 and Table 4. These projections are from the present year to 2046, MidCoast Water's 30 year planning horizon.

Table 3: Water Supply Estimated Number of Equivalent Tenements

Water Supply Service Area	Equivalent Tenements (ETs) 2016	Equivalent Tenements (ETs) 2046	30 years New ETs	Average annual growth rate
Bulahdelah	650	717	67	0.33%
Gloucester	2035	2642	606	0.82%
Manning	43405	67186	23781	1.48%
North Karuah	37	104	68	3.53%
Stroud	499	612	113	0.71%
Tea Gardens	2946	4958	2012	1.75%
TOTAL	49,572	76,218	26,646	Weighted Ave 1.3%

Table 4: Sewerage Service Estimated Number of Equivalent Tenements

Sewerage Service Area	Equivalent Tenements (ETs) 2016	Equivalent Tenements (ETs) 2046	30 years New ETs	Average annual growth rate
Bulahdelah	650	717	67	0.33%
Coopernook	206	276	70	0.97%
Forster	11159	13973	2814	0.73%
Gloucester	1985	2490	504	0.74%
Hallidays Point	6657	10705	4047	1.60%
Harrington	1678	2319	641	1.07%
Hawks Nest	2904	4887	1983	1.75%
Lansdowne	236	308	73	0.93%
Manning Point	274	362	88	0.95%

Sewerage Service Area	Equivalent Tenements (ETs) 2016	Equivalent Tenements (ETs) 2046	30 years New ETs	Average annual growth rate
North Karuah	37	99	63	3.45%
Old Bar	2372	4137	1765	1.93%
Stroud	419	512	93	0.71%
Taree	9285	11688	2403	0.78%
Wingham	2209	2733	524	0.74%
TOTAL	40,071	55,205	15,134	Weighted Ave 1.0%

4.2.2 Past Growth

The average growth rate over the past 17 years is shown in Table 5. It can be seen that the average growth rate over those years is 1.3%, indicating that the forecast growth rates in Section 4.2.1 are reasonable.

Table 5: Past growth rate based on no. of new water services from 1999 to 2016.

No. of water services as at Jun 1999		30072	Growth rate
Year	No. of new water services		
1999/00	701	30773	2.3%
2000/01	467	31240	1.5%
2001/02	788	32028	2.5%
2002/03	804	32832	2.5%
2003/04	762	33594	2.3%
2004/05	569	34163	1.7%
2005/06	446	34609	1.3%
2006/07	282	34891	0.8%
2007/08	275	35166	0.8%
2008/09	191	35357	0.5%
2009/10	307	35664	0.9%
2010/11	270	35934	0.8%
2011/12	301	36235	0.8%
2012/13	259	36494	0.7%
2013/14	333	36827	0.9%
2014/15	314	37141	0.9%
2015-16	339	37480	0.9%
Average growth rate			1.3%

4.3 Land Use Information

These DSPs have been prepared with reference to MidCoast Water's scheme specific Servicing Strategies, the Growth Servicing Plan and the Local Environmental Plans (LEPs) and Development Control Plans (DCPs) and other planning instruments from MidCoast Council.

5 Water Supply and Sewerage Infrastructure

Existing capital costs have been extracted from MidCoast Water's asset management system. These values have been derived from an independent valuation of property, plant and equipment assets undertaken in accordance with Australian Accounting Standards AASB 13 Fair Value Measurement and AASB 116 Property, Plant and Equipment in 2016 (AssetVal 2016). Furthermore, the fair value asset figures have not been reduced by government grants and subsidies.

As per the Guidelines (example 7 p. 28), the capital charge has been calculated using the NPV spreadsheet method – Capital Charge for pre and post 1996 existing assets and planned future assets (for all MidCoast Water schemes). Hence the capital charge is calculated on the proportion of the capital works utilised by the post 1996 ETs.

The only exceptions to this approach are the Coopernook, Lansdowne and North Karuah schemes which were backlog schemes and hence the capital charge is calculated on total system capital cost and all the ETs that the system will service.

The capacity of the systems, comprising existing and future assets, is adequate to serve the growth anticipated for the next 30 years. In accordance with the Guidelines, the take-up period was limited to 30 years from the date of the DSP.

5.1 Water Supply

MidCoast Water is responsible for the management of six water supply schemes including the reticulation of water from reservoirs to customers. MidCoast Water supplies bulk treated water to all schemes except North Karuah. Bulk water is supplied to the North Karuah DSP by Hunter Water as part of the Lemon Tree Passage – Karuah Water Supply Scheme.

There are six existing water supply head-works, and water distribution networks serving each of the schemes and associated systems below. This is summarised in Figure 1 and detailed in Appendix A – Water Supply Service Area Maps.

Table 6: Water Supply Schemes and Service Areas

Water Supply Schemes	Serviced Towns & Communities (Systems)
Bulahdelah Water Supply Scheme	<i>Bulahdelah</i>
Gloucester Water Supply Scheme	<i>Gloucester and Barrington</i>
Manning Water Supply Scheme	<i>Bohnock</i> <i>Harrington</i> <i>Oxley Island</i> <i>Bootawa</i> <i>Hallidays Point</i> <i>Pacific Palms</i> <i>Brimbin</i> <i>Jones Island</i> <i>Pampoolah</i> <i>Coopernook</i> <i>Kiwarrik</i> <i>Rainbow Flat</i> <i>Croki</i> <i>Kooringhat</i> <i>Redhead</i> <i>Crowdy Head</i> <i>Krambach</i> <i>Smiths Lakes</i> <i>Cundletown</i> <i>Kundle Kundle</i> <i>Tallwoods</i> <i>Darawank</i> <i>Lansdowne</i> <i>Tarback Bay</i> <i>Dumaresq Island</i> <i>Langley Vale</i> <i>Taree South</i> <i>Dyers Crossing</i> <i>Manning Point</i> <i>Tinonee</i> <i>Failford</i> <i>Mitchells Island</i> <i>Tiona</i> <i>Forster</i> <i>Moto</i> <i>Tuncurry</i> <i>Ghinni Ghinni</i> <i>Mondrook</i> <i>Wallabi Point</i> <i>Glenthorne</i> <i>Nabiac</i> <i>Wingham</i> <i>Green Point</i> <i>Old Bar</i>
North Karuah Water Supply Scheme	<i>North Karuah</i>
Stroud Water Supply Scheme	<i>Stroud and Stroud Road</i>
Tea Gardens Water Supply Scheme	<i>Tea Gardens and Hawks Nest</i>

5.1.1 Existing Assets

All existing assets servicing the MidCoast Water service areas are included in the capital charge calculations except for the following:

- Assets which will be more than 30 years old at the commencement of the DSP (i.e. commissioned pre 1987).
- 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.

A summary of the existing assets and their current replacement costs included in the developer charges calculation (i.e. excluding reticulation, gifted and pre 1987 assets) is shown in Table 7 below.

Table 7: Summary of Water Supply Existing Assets

Water Supply Service Area	Current Replacement Cost (2015-16 \$'000) (Excluding reticulation, gifted assets and assets more than 30 years old, i.e. pre 1987 assets)
Bulahdelah	\$5,123
Gloucester	\$7,103
Manning	\$241,306
North Karuah	\$3
Stroud	\$8,094
Tea Gardens	\$28,888
Total	\$290,517

Details of existing assets servicing the area covered by the water supply DSP are listed in the *MidCoast Water 2017 DSP Background Document for Water Supply*. This is available in electronic format upon request.

5.1.2 Future Capital Works Program

Water Supply capital works comprise new works and renewals. These works will be required over the next 30 years to provide water supply services to the MidCoast Water service areas and new development areas. A summary of the water supply capital works program is provided in Table 9 below.

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. For these DSPs, pipes with diameter of 150mm and smaller were categorised as reticulation and have been excluded from the capital charge calculation.

According to the *2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater*, the calculation of capital charges includes capital costs for new works planned within the next 10 years and excludes reticulation. Whilst capital costs for detailed plans beyond 10 years may also be considered within the capital charge calculation, this is not the case for this DSP and only the next 10 years of the capital works program have been accounted for.

Capital works for renewal planned within the next 10 years may be included if the existing asset is older than 30 years and/or has been removed from the asset register (i.e. existing assets). For the purposes of these calculations it has been assumed that the capital works for renewals are assigned to assets older than 30 years and therefore are included in the calculation. For unallocated renewals, the capital expenditure has been proportioned according to the size of the scheme (based on ETs in 2016) as detailed in Table 8.

Table 8: Size of water scheme

Water Supply Service Area	Equivalent Tenements (ETs) 2016	% of total ETs
Bulahdelah	650	1.3%
Gloucester	2,035	4.1%
Manning	43,405	87.6%
North Karuah	37	0.1%
Stroud	499	1.0%
Tea Gardens	2,946	5.9%
TOTAL	49,572	100%

A detailed 30 year capital works program is provided in the *MidCoast Water 2017 DSP Background Document for Water Supply*.

Table 9: Summary of Water Supply Capital Works Program

Capital Works Program	Total 30 years (2016-17 \$'000)	Total 10 years (2016-17 \$'000)
New Works	\$87,961	\$39,928
Renewals	\$287,362	\$70,532
Total	\$375,322	\$110,461

The ten years capital works expenditure for water supply is shown in Figure 2.

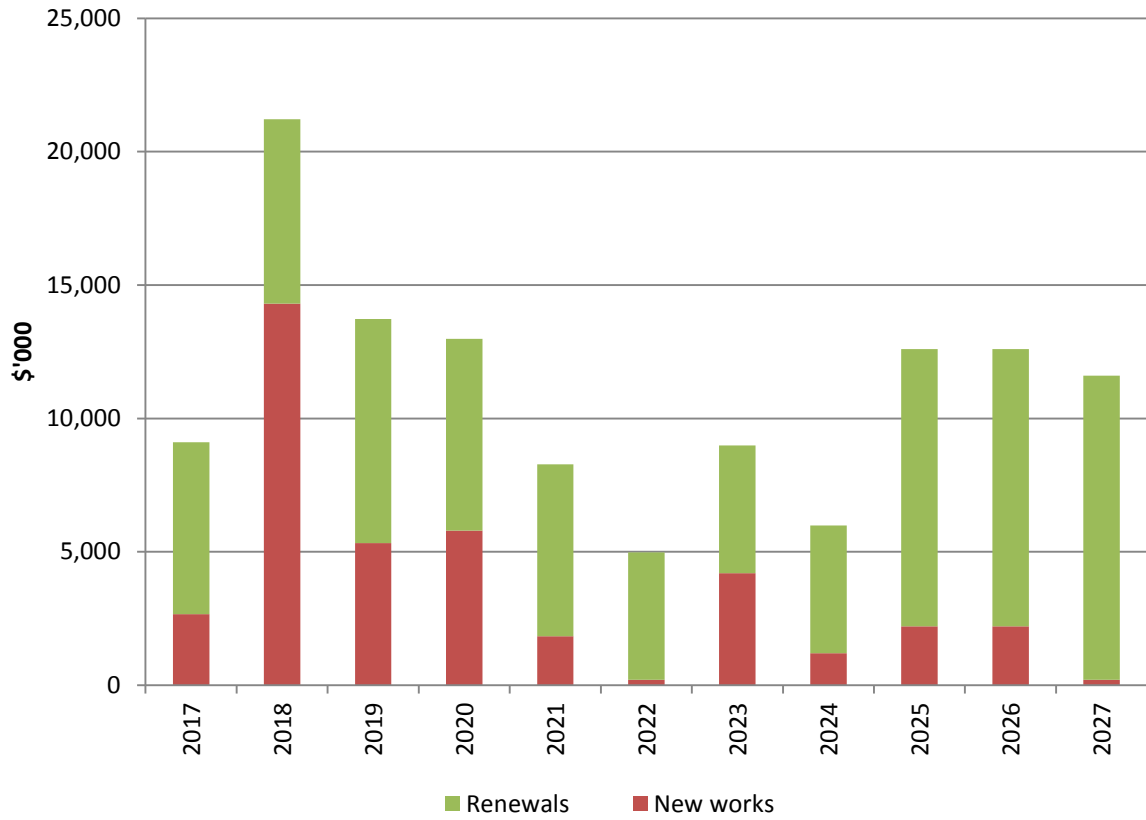


Figure 2: Ten year capital works program (Water)

5.2 Sewerage

MidCoast Water is responsible for the management of fourteen sewage servicing schemes. MidCoast Water operates sewage treatment plants related to all schemes except North Karuah. Sewage from North Karuah is pumped to the Karuah Sewer Treatment Plant which is managed and owned by Hunter Water.

There are fourteen existing sewage treatment plants, and associated transfer networks serving each of the schemes and associated systems below. This is summarised in Figure 1 and detailed in Appendix B – Sewerage Service Area Maps.

Table 10: Sewer Supply Schemes and Service Areas

Sewer Supply Schemes	Serviced Towns & Communities (Systems)
Bulahdelah Sewerage Scheme	<i>Bulahdelah</i>
Cooperook Sewerage Scheme	<i>Cooperook</i>
Forster Sewerage Scheme	<i>Forster Pacific Palms Smiths Lake Green Point Seven Mile Beach Tarbuck Bay</i>
Gloucester Sewerage Scheme	<i>Gloucester and Barrington</i>
Hallidays Point Sewerage Scheme	<i>Hallidays Point Nabiac Tuncurry Wallamba</i>
Harrington Sewerage Scheme	<i>Harrington and Crowdy Head</i>
Hawks Nest Sewerage Scheme	<i>Hawks Nest and Tea Gardens</i>
Lansdowne	<i>Lansdowne</i>
Manning Point	<i>Manning Point and Pelican Bay</i>
North Karuah	<i>North Karuah</i>
Old Bar	<i>Old Bar and Wallabi Point</i>
Stroud Sewerage Scheme	<i>Stroud</i>
Taree Sewerage Scheme	<i>Taree, Taree South and Tinonee</i>
Wingham Sewerage Scheme	<i>Wingham</i>

5.2.1 Existing Assets

All existing assets serving MidCoast Water development areas are included in the capital charge except for the following:

- Assets which will be more than 30 years old at the commencement of the DSP (i.e. commissioned pre 1987).
- Assets which are unlikely to be fully utilised over the planning horizon for calculating developer charges of typically 30 years.
- Reticulation assets those are typically paid for directly by developers.
- Gifted assets which were built by developers and later transferred to MidCoast Water.

A summary of the existing assets and their current replacement costs included in the developer charges calculation (i.e. excluding reticulation, gifted and pre 1987 assets) is shown in Table 11 below. For these DSPs, pipes with diameter of 150mm and smaller were categorised as reticulation and have been excluded from the capital charge calculation. All sewerage manholes have also been excluded.

Table 11: Summary of Sewerage Service Existing Assets

Sewerage Service Area	Current Replacement Cost (2015-16 \$'000) (Excluding reticulation, gifted assets and assets more than 30 years old, i.e. pre 1987 assets)
Bulahdelah	\$10,435
Cooperbrook	\$5,041
Forster	\$94,065
Gloucester	\$4,634
Hallidays Point	\$81,181
Harrington	\$22,066
Hawks Nest	\$19,247
Lansdowne	\$4,242
Manning Point	\$9,243
North Karuah	\$317
Old Bar	\$24,523
Stroud	\$13,489
Taree	\$63,005
Wingham	\$15,025
Total	\$366,511

Details of existing assets servicing the area covered by the sewerage DSP are listed in the *MidCoast Water 2017 DSP Background Document for Sewerage Servicing*. This is downloadable from the MidCoast Water website or available in electronic format upon request.

5.2.2 Future Capital Works Program

Sewerage capital works comprise new works and renewals. These works will be required over the next 30 years to provide sewerage services to the MidCoast Water service areas and new development areas. A summary of the wastewater capital works program is provided in Table 13 below.

Reticulation is defined as the local pipes connecting the 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.

According to the *2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater*, the calculation of capital charges includes capital costs for new works planned within the next 10 years and excludes reticulation. Whilst capital costs for detailed plans beyond 10 years may also be considered within the capital charge calculation, this is not the case for this DSP and only the next 10 years of the capital works program have been accounted for.

Capital works for renewal planned within the next 10 years may be included if the existing asset is older than 30 years and/or have been removed from the asset register (i.e. existing assets). For

the purposes of these calculations it has been assumed that the capital works for renewals are assigned to assets older than 30 years and therefore are included in the calculation. For unallocated renewals, the capital expenditure has been proportioned according to the size of the scheme (based on ETs in 2016) as detailed in Table 12.

Table 12: Size of sewerage scheme

Sewerage Service Area	Equivalent Tenements (ETs) 2016	% of total
Bulahdelah	650	1.62%
Cooperbrook	206	0.51%
Forster	11,159	27.85%
Gloucester	1,985	4.95%
Hallidays Point	6,657	16.61%
Harrington	1,678	4.19%
Hawks Nest	2,904	7.25%
Lansdowne	236	0.59%
Manning Point	274	0.68%
North Karuah	37	0.09%
Old Bar	2,372	5.92%
Stroud	419	1.04%
Taree	9,285	23.17%
Wingham	2,209	5.51%
TOTAL	40,071	100%

A detailed 30 year capital works program is provided in the *MidCoast Water 2017 DSP Background Document for Sewerage Servicing*.

Table 13: Summary of Sewer Capital Works Program

Capital Works Program	Total 30 years	Total 10 years
New Works	\$120,086	\$40,272
Renewals	\$260,037	\$74,608
Total	\$380,124	\$114,879

The ten years capital works expenditure for wastewater is shown in Figure 3.

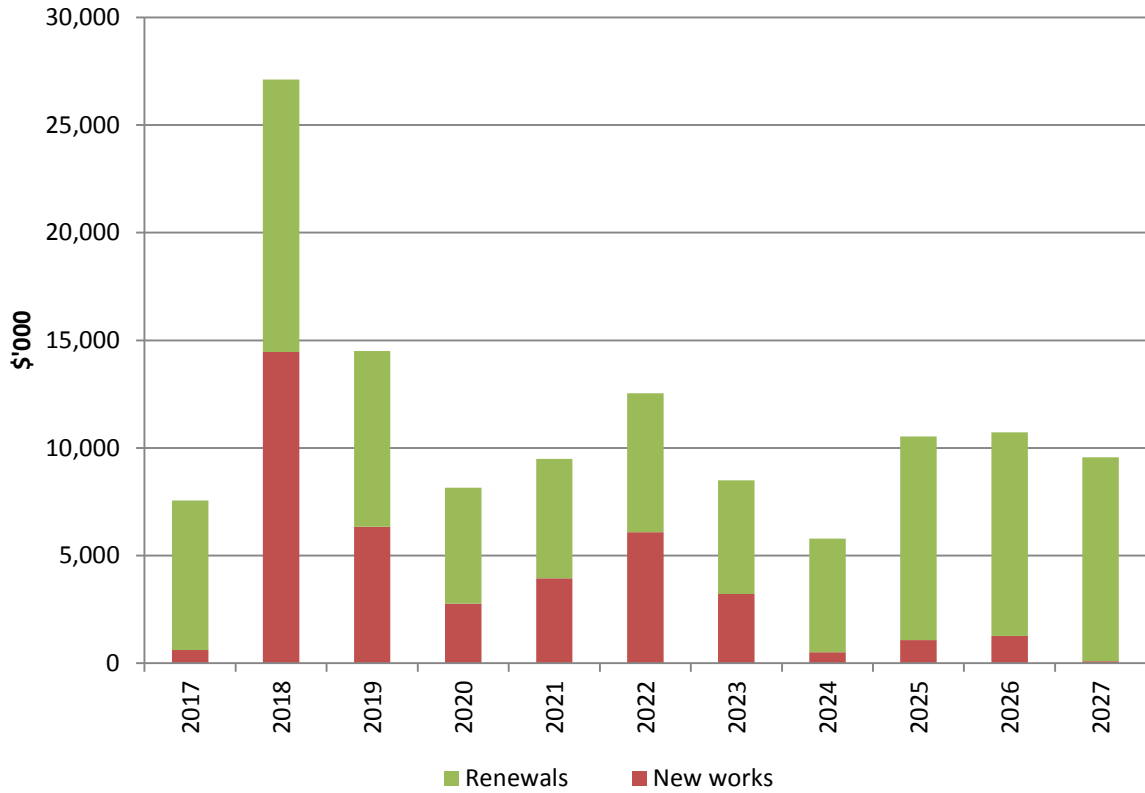


Figure 3: Ten Year Capital Works Program (Sewer)

6 Levels of Service

The levels of water supply and sewerage services MidCoast Water provides to our customers form the basis for the design and operation of our water supply and sewerage assets. These levels of service define the targets MidCoast Water aims to achieve.

MidCoast Water publishes Levels of Service (LOS) and design criteria within the asset management plans for water supply and sewerage assets.

Further information on levels of service is available:

- MidCoast Water Strategic Business Plan
- NSW Water and Sewerage Strategic Business Planning Guidelines, NSW Office of Water, July 2011, (available at www.water.nsw.gov.au)

The LOS applied to MidCoast Water's water supply systems are the targets that MidCoast Water aims to achieve. They are not a customer contract.

MidCoast Water assesses performance against our LOS targets in the annual State of the Environment Report. The current performance, interim and ultimate targets are shown in Table 14 and Table 15 below.

Table 14: Levels of Service (Water)

	Current performance	Ultimate Target
Drinking water compliance (physical) (bacteriological) (chemical)	98.7% 100% 99.6%	100% 100% 100%
Customer satisfaction Water supply service complaints per 1,000 customers	<1/1,000	10/1,000
Scheme reliability Drought water restrictions (% of time) Number of restrictions Reduction in usage during restrictions	Meeting target Meeting target Meeting target	5% 1 in 10 years 10%

Table 15: Levels of Service (Sewer)

	Current performance	Ultimate Target
Environmental compliance Compliance to Licence Concentration Limits	97.7%	99.0%
Customer satisfaction Odour complaints per 1,000 properties	0.6/1,000 (current State median 0.6/1000)	At or below State median
Scheme reliability Interruptions per 1000 properties	<1/1,000 (current State median 12/1,000)	9

7 Design Parameters

Investigation, design and construction of water supply components are based on:

- MidCoast Water's levels of service (Refer to section 6 above)
- Public Works Department, 1990, *Water Supply Investigation Manual*
- Water Services Association of Australia, 2011, *Water Supply Code of Australia – Part 1: Planning and Design Third Edition Version 3.1 (WSA 03-2011-3.1)*
- Water Services Association of Australia, 2002, *Water Supply Code of Australia 2002 MidCoast Water Supplement*

Investigation, design and construction of sewerage components are based on:

- MidCoast Water's levels of service (Refer to section 6 above)
- Public Works Department, 1987, *Manual of Practice: Sewer Design*
- Public Works Department, 1986, *Manual of Practice: Sewage Pumping Station Design*
- Water Services Association of Australia, 2002, *Sewerage Code of Australia – WSA 02-2002*
- Water Services Association of Australia, 2005, *Sewage Pumping Station Code of Australia – WSA 04-2005 Second Edition Version 2.1*
- Water Services Association of Australia, 2007, *Pressure Sewerage Code of Australia – WSA 07 - 2007*

8 Developer Charges Methodology

8.1 Capital Charge

The capital charges were calculated for MidCoast Water water supply and sewerage service areas based on the existing and future assets providing the services in these areas. The capital charge is calculated per ET by dividing the present value (PV) of the cost of the assets by the PV of number of new ETs.

The calculation outcomes of the water supply capital charges are summarised in Section 9.2.

The calculation outcomes of the sewage servicing capital charges are summarised in Section 10.2.

The capital charges were calculated based on the following discount rates.

Assets	Discount Rate
Pre-1996 assets	3% pa
Post-1996 assets	6.53% pa

MidCoast Water's weighted average cost of capital is 6.53% and has been calculated based on MidCoast Water's actual fixed interest expense from the loans used to fund historical capital works. In accordance with the Guidelines, contingencies are excluded from existing assets and included in future assets.

8.2 Exclusions

The developer charges do not cover the costs of reticulation, gifted assets and assets more than 30 years old.

The planning horizon for calculating developer charges is typically 30 years. Generally, the capacity of an asset would not be fully utilised until some years after construction of the asset, and in some cases this is greater than 30 years. For assets which are unlikely to be fully utilised over the 30 year planning horizon, the proportion of excess capacity is not included in calculating developer charges.

MidCoast Water does not levy charges for the construction of reticulation pipework. Developers are responsible for the provision of these works. These are handed over to MidCoast Water upon completion of the development.

8.3 Reduction Amount

The reduction amount represents the portion of the cost of assets that the LWU expects to recover through its annual bills to the new residents.

MidCoast Water has adopted the NPV of annual bills method to calculate the reduction amount. This method calculates the reduction amount as the NPV for 30 years of the future net income from annual charges (i.e. revenue from annual bills less OMA) for the development area. Details of the calculated reduction amounts for water and sewer are detailed in the *MidCoast Water 2017 DSP Background Document for Water Supply* and *MidCoast Water 2017 DSP Background Document for Sewer Servicing*.

8.4 Developer Charges and Implementation

The developer charge is calculated as the capital charge, less the reduction amount. The outcomes of water supply and sewer servicing developer charges calculations are included in Sections 9.1 and 10.1 respectively.

8.4.1 Time and Payment of Developer Charges

MidCoast Water has the following timing set out for developer charges payment:

- For subdivisions – prior to the release of the MidCoast Water Certificate of Compliance for subdivision.
- For all other types – prior to the release of the MidCoast Water Certificate of Compliance for construction or occupation.

8.4.2 Application of Developer Charges

Developer charges will be levied to all land within the DSP areas which is serviced by water supply and/or sewerage.

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

The redevelopment of existing properties will also incur developer charges if the proposed use is expected to have higher demand for water supply and/or sewerage services than the existing use.

In order to assess the developer contribution applicable to a specific development, MidCoast Water will assess the demand that the proposed development will place on the relevant water and/or sewerage systems in accordance with the MidCoast Water Equivalent Tenement Policy.

8.4.3 Levying Lower Charges

In setting the developer charges, MidCoast Water may consider financial, social and environmental factors to determine a level of developer charges that is balanced, fair and meets MidCoast Water's objectives.

MidCoast Water has adopted developer charges that are lower than the calculated developer charges. Water supply and sewer adopted developer charges are given in Section 9.1 and Section 10.1 respectively.

Adopting developer charges that are lower than the calculated amount means that existing residents subsidise new development. The extent of this cross subsidy is disclosed in this document in Section 9.5 for water and Section 10.5 for sewer.

9 Water Supply DSP

9.1 Water Developer Charge Summary

The developer charge is calculated as the capital charge, less the reduction amount. The reduction amount calculation methodology is provided in Section 8.3 and the developer charge calculation is provided in the *MidCoast Water 2017 DSP Background Document for Water Supply*.

The MidCoast Water calculated water supply developer charges for the area covered by this water supply DSP is provided in Table 16 below.

Table 16: Water Developer Charge

DSP Area	Service Area	Weighted Capital Charge (\$ per ET)	Reduction Amount (\$ per ET)	Calculated Maximum Developer Charge (\$ per ET)	Proposed Developer Charge 2017-18 (\$ per ET)
WDSP1	Stroud	\$16,860		\$14,981	
WDSP2	Bulahdelah	\$7,849	\$1,879	\$5,970	\$5,970
	Manning				
	Tea Gardens				
	Gloucester				
WDSP3	North Karuah	\$604		\$0	\$0

9.2 Water Capital Charge

The capital charge for each service area covered by this DSP has been calculated using net present value (NPV) spreadsheet method.

Under the NPV spreadsheet method, the capital cost of relevant assets and projected ETs served in a service area are entered into a spreadsheet. These capital costs are only for the share of the asset capacity used in the service area. The present value (PV) of capital cost and the new ETs are calculated, and the capital charge per ET is the PV of the capital cost divided by the PV of the ETs.

The summary of the water capital charge calculations is shown below.

Table 17: Water capital charge

Service Area	PV of capital cost for pre-1996 assets @ 3%	PV of capital cost for post-1996 assets @ 6.53%	PV of new ETs for pre-1996 assets @ 3%	PV of new ETs for post-1996 assets @ 6.53%	Capital charge for pre-1996 assets	Capital charge for post-1996 assets	Capital charge per ET
Stroud	\$227,663	\$2,862,698	167	185	\$1,360	\$15,500	\$16,860
Tea Gardens	\$380,268	\$23,808,921	2713	3012	\$140	\$7,905	\$8,045
Manning	\$30,383,405	\$242,823,988	32239	35141	\$942	\$6,910	\$7,852
Gloucester	\$37,508	\$4,867,031	715	661	\$52	\$7,359	\$7,412
Bulahdelah	\$9,217	\$2,015,343	256	324	\$36	\$6,229	\$6,265
North Karuah	\$0	\$19,907	46	33	\$0	\$604	\$604

9.3 Agglomeration and Weighted Capital Charge

The Guidelines specify that when the capital charges for two or more service areas are within 30% they should be agglomerated into a single DSP.

Manning, Tea Gardens, Bulahdelah and Gloucester are agglomerated into a single DSP area due to capital charges being within 30% of each other.

Table 18 below shows agglomeration of water service areas into DSP areas of within 30% of highest capital charge.

Table 18: Agglomeration of water service areas

DSP Name	Service area	Capital charge (\$ per ET)	% of highest capital charge WDSP1	% of highest capital charge WDSP2	% of highest capital charge WDSP3
WDSP1	Stroud	\$16,860	100%		
WDSP2	Tea Gardens	\$8,045	48%	100%	
	Manning	\$7,852		98%	
	Gloucester	\$7,412		92%	
	Bulahdelah	\$6,265		78%	
WDSP3	North Karuah	\$604		8%	100%

Weighted average capital charge for each DSP area is calculated by weighting by the PV of new ETs in each service area. The calculation for the weighted average water capital charge is shown in Table 19 below.

Table 19: Weighted average water capital charge

DSP Name	Service area	Capital charge (\$ per ET)	New ETs	PV of new ETs	Proportion of PV of new ETs in each DSP area	Weighted component of the capital charge for each service area (\$ per ET)	Weighted capital charge for each DSP area (\$ per ET)
WDSP1	Stroud	\$16,860	111	41	100%	\$16,860	\$16,860
WDSP2	Tea Gardens	\$8,045	1977	750	8%	\$616	
	Manning	\$7,852	23394	8716	89%	\$6,984	
	Gloucester	\$7,412	600	307	3%	\$232	
	Bulahdelah	\$6,265	67	27	0.3%	\$17	\$7,849
WDSP3	North Karuah	\$604	40	66	100%	\$604	\$604

9.4 Reduction Amount

The reduction amount reflects the net present value of the capital contribution that will be paid by the occupier of a development as part of future annual bills. The net annual income from an equivalent tenement has been calculated using the 2015-16 financial year average annual bill and estimated operational, maintenance and administration costs.

The NPV for 30 years of the future net income from annual charges (i.e. revenue from annual bills less OMA) for the development area = \$1,879 per ET.

9.5 Cross-Subsidy

The cross-subsidy is the difference (%) between the annual bill with the calculated maximum developer charge and the proposed lower developer charge.

Three options were developed and examined as follows.

Option 1 – No cross-subsidy – Calculated maximum developer charge levied.

Option 2 – WDSP1 cross-subsidised

Option 3 – 100% cross-subsidy – no developer charge

Table 20: Water developer charges and cross-subsidy

Option	DSP Area	Service Area	PV of new ETs over 30 years	Calculated developer charge per ET	Weighted component of developer charge	Utility wide weighted average developer charge per ET	Utility wide weighted average cross-subsidy to developer charge (\$/ET)
1	WDSP1	Stroud	41	\$14,981	\$562	\$5,968	\$0
	WDSP2	Tea Gardens					
		Manning					
		Gloucester					
		Bulahdelah	9800	\$5,970	\$5,906		
	WDSP3	North Karuah	66	\$0	\$0		
2	WDSP1	Stroud	41	\$5,970	\$25	\$5,930	\$31
	WDSP2	Tea Gardens					
		Manning					
		Gloucester					
		Bulahdelah	9800	\$5,970	\$5,906		
	WDSP3	North Karuah	66	\$0	\$0		
3	WDSP1	Stroud	41	\$0	\$0	\$0	\$5,968
	WDSP2	Tea Gardens					
		Manning					
		Gloucester					
		Bulahdelah	9800	\$0	\$0		
	WDSP3	North Karuah	66	\$0	\$0		

The impact of cross-subsidies on the annual water supply bill for each option is shown in Table 21 and Figure 4.

Table 21: Impact of cross-subsidies on annual water bill

Option	Comment	Required annual water supply bill per ET (\$)	Annual \$ increase	Resulting increase in annual water supply bill (%)
1	No cross-subsidies	\$621	\$0	0%
2	WDSP1 cross-subsidised	\$622	\$0.53	0.1%
3	100% cross-subsidised	\$706	\$85	14%

The preferred cross subsidy option is Option 2 which involves WDSP1 being cross subsidised.

This option is preferred as it maintains affordability for development in the Stroud service area, i.e., this option avoids Stroud having a water developer charge over \$7000 higher than the rest of the MidCoast Water service area (except for North Karuah).

The preferred option was subject to feedback received during the public exhibition period. No feedback was received regarding the cross subsidy options and, accordingly, the preferred option will be adopted.

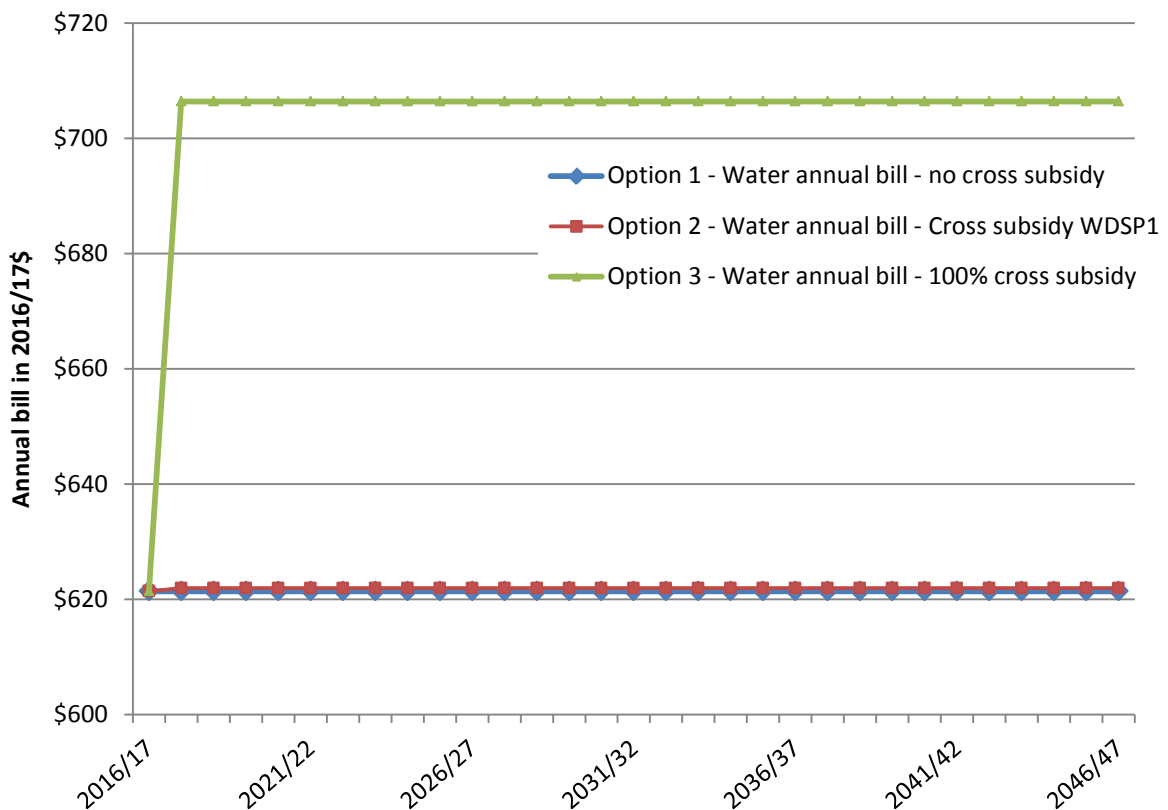


Figure 4: Impact of cross-subsidies on annual water bill

10 Sewerage Servicing DSP

10.1 Sewer Developer Charge Summary

The developer charge is calculated as the capital charge, less the reduction amount. The reduction amount calculation methodology is provided in Section 8.3 and the developer charge calculation is provided in the *MidCoast Water 2016 DSP Background Document for Sewerage Servicing*.

The MidCoast Water developer charges for the area covered by this document are listed in Table 22 below. These charges have been based on areas served by separate sewage treatment plants.

Table 22: Sewer Developer Charges

DSP Area	Service Area	Weighted Capital Charge (\$ per ET)	Reduction Amount (\$ per ET)	Calculated Maximum Developer Charge (\$ per ET)	Proposed Developer Charge 2017-18 (\$ per ET)
SDSP1	Stroud	\$17,372	\$4,374	\$12,999	\$8,236
	Coopernook				
	Lansdowne				
	Bulahdelah				
SDSP2	Harrington	\$12,610			
	Manning Point				
	Gloucester				
	Old Bar			\$8,236	
	Forster				
	Taree				
Wingham					
SDSP3	Hawks Nest	\$7,366	\$2,992		\$2,992
	North Karuah				
	Hallidays Point				

10.2 Sewer Capital Charge

The capital charge for each service area covered by this DSP has been calculated using net present value (NPV) spread-sheet method.

Under the NPV spread-sheet method, the capital cost of relevant assets and projected ETs served in a service area are entered into a spread-sheet. These capital costs are only for the share of the asset capacity used in the service area. The present value (PV) of capital cost and the new ETs are calculated, and the capital charge per ET is the PV of the capital cost divided by the PV of the ETs.

The summary of the capital charge calculations is shown in Table 23 below.

Table 23: Sewer capital charge

Service Area	PV of capital cost for pre-1996 assets @ 3%	PV of capital cost for post-1996 assets @ 6.53%	PV of new ETs for pre-1996 assets @ 3%	PV of new ETs for post-1996 assets @ 6.53%	Capital charge for pre-1996 assets	Capital charge for post-1996 assets	Capital charge per ET
Stroud	\$3,343	\$3,035,765	129	140	\$26	\$21,741	\$21,766
Coopernook	\$0	\$7,615,067	339	484	\$0	\$15,747	\$15,747
Bulahdelah	\$180,776	\$5,020,759	263	338	\$687	\$14,867	\$15,554
Lansdowne	\$0	\$8,607,919	386	555	\$0	\$15,508	\$15,508
Harrington	\$7,859,816	\$16,030,857	1,434	1,685	\$5,483	\$9,513	\$14,996
Forster	\$5,655,442	\$77,543,477	5,466	6,192	\$1,035	\$12,523	\$13,558
Old Bar	\$4,926,436	\$28,334,561	2,423	2,705	\$2,033	\$10,474	\$12,508
Gloucester	\$111,921	\$7,569,337	688	654	\$163	\$11,565	\$11,728
Manning Point	\$0	\$7,881,983	462	680	\$0	\$11,587	\$11,587
Taree	\$12,495,967	\$27,734,981	3,453	3,808	\$3,619	\$7,284	\$10,902
Wingham	\$745,690	\$4,139,240	501	441	\$1,488	\$9,388	\$10,876
North Karuah	\$0	\$883,255	89	100	\$0	\$8,811	\$8,811
Hallidays Pt	\$5,375,063	\$43,964,343	5,940	6,669	\$905	\$6,592	\$7,497
Hawks Nest	\$417,976	\$20,464,205	2,674	2,969	\$156	\$6,893	\$7,050

10.3 Agglomeration and Weighted Capital Charge

The Guidelines specify that when the capital charges for two or more service areas are within 30% they should be agglomerated into a single DSP. Accordingly, the following sewer service areas have been agglomerated into a single DSP:

- Stroud, Coopernook, Lansdowne and Bulahdelah
- Harrington, Old Bar, Taree, Manning Point, Forster, Wingham and Gloucester
- Hawks Nest, Hallidays Point and North Karuah

Table 24 below shows agglomeration of sewer service areas into DSP areas of within 30% of highest capital charge.

Table 24: Agglomeration of sewer service areas

DSP Name	Service area	Capital charge (\$ per ET)	% of highest capital charge SDSP1	% of highest capital charge SDSP2	% of highest capital charge SDSP3
SDSP1	Stroud	\$21,766	100%		
	Coopernook	\$15,747	72%		
	Bulahdelah	\$15,554	71%		
	Lansdowne	\$15,508	71%		
SDSP2	Harrington	\$14,996	69%	100%	
	Forster	\$13,558		90%	
	Old Bar	\$12,508		83%	
	Gloucester	\$11,728		78%	
	Manning Point	\$11,587		77%	
	Taree	\$10,902		73%	
	Wingham	\$10,876		73%	
SDSP3	North Karuah	\$8,811		59%	100%
	Hallidays Point	\$7,497			85%
	Hawks Nest	\$7,050			80%

The weighted average capital charge for each DSP area is calculated by weighting by the PV of new ETs in each service area. The calculation for the weighted average sewer capital charge is shown in Table 25.

Table 25: Weighted average sewer capital charge

Utility-wide weighted average sewer capital charge: \$4,185.

DSP Area	Service Area	Capital charge for Service Area (\$ per ET)	New ETs	PV of new ETs	Proportion of PV of new ETs in each DSP area	Weighted component of the capital charge for each DSP area (\$ per ET)	Weighted capital charge for each DSP area (\$ per ET)
SDSP1	Stroud	\$21,766	94	35	29%	\$6,250	
	Cooperbrook	\$15,747	70	29	24%	\$3,778	
	Bulahdelah	\$15,554	67	27	22%	\$3,475	
	Lansdowne	\$15,508	75	30	25%	\$3,870	\$17,372
SDSP2	Harrington	\$14,996	687	383	9%	\$1,372	
	Forster	\$13,558	2,967	1,550	37%	\$5,016	
	Old Bar	\$12,508	1,817	750	18%	\$2,239	
	Gloucester	\$11,728	532	297	7%	\$832	
	Manning Point	\$11,587	89	36	1%	\$99	
	Taree	\$10,902	2,351	950	23%	\$2,473	
	Wingham	\$10,876	542	223	5%	\$579	\$12,610
SDSP3	North Karuah	\$8,811	64	24	1%	\$94	
	Hallidays Point	\$7,497	3,999	1,519	67%	\$4,989	
	Hawks Nest	\$7,050	1,949	739	32%	\$2,283	\$7,366

10.4 Reduction Amount

The reduction amount reflects the net present value of the capital contribution that will be paid by the occupier of a development as part of future annual bills. The net annual income from an equivalent tenement has been calculated using the 2015-16 financial year average annual bill and expected operational, maintenance and administration costs.

The NPV for 30 years of the future net income from annual charges (i.e. revenue from annual bills less OMA) for the development area = \$4,374 per ET.

10.5 Cross-Subsidy

The cross-subsidy is the difference (%) between the annual bill with the calculated maximum developer charge and the proposed lower developer charge.

Four options were developed and examined as follows.

- Option 1 – No cross-subsidy – Calculated maximum developer charge adopted.
- Option 2 – Cross-subsidy – SDSP1 cross-subsidised
- Option 3 - Cross-subsidy – SDSP1 and SDSP2 cross-subsidised
- Option 4 – 100% cross-subsidised – no developer charges

Table 26: Sewer Developer charges and cross-subsidy

Option	DSP Area	Service Area	PV of new ETs over 30 years	Calculated developer charge per ET	Weighted component of developer charge	Utility wide weighted average developer charge per ET	Utility wide weighted average cross-subsidy to developer charge (\$/ET)
1 No cross subsidy	SDSP 1	Stroud				\$6,507	\$0
		Coopernook					
		Bulahdelah					
		Lansdowne	121	\$12,999	\$238		
	SDSP 2	Harrington					
		Forster					
		Old Bar					
		Gloucester					
		Manning Point					
		Taree					
	SDSP 3	Wingham	4,188	\$8,236	\$5,233		
		North Karuah					
		Hallidays Point					
2 SDSP1 subsidised	SDSP 1	Stroud				\$6,420	\$87
		Coopernook					
		Bulahdelah					
		Lansdowne	121	\$8,236	\$151		
	SDSP 2	Harrington					
		Forster					
		Old Bar					
		Gloucester					
		Manning Point					
		Taree					
	SDSP 3	Wingham	4,188	\$8,236	\$5,233		
		North Karuah					
		Hallidays Point					
3 SDSP1 and SDSP2 subsidised	SDSP 1	Stroud				\$2,992	\$3,515
		Coopernook					
		Bulahdelah					
		Lansdowne	121	\$2,992	\$55		
	SDSP 2	Harrington					
		Forster					
		Old Bar					
		Gloucester					
		Manning Point					
		Taree					
	SDSP 3	Wingham	4,188	\$2,992	\$1,901		
		North Karuah					
		Hallidays Point					
4 100% subsidy	SDSP 1	Stroud				\$0	\$6,507
		Coopernook					
		Bulahdelah					
		Lansdowne	121	\$0			
	SDSP 2	Harrington					
		Forster					
		Old Bar					
		Gloucester					
		Manning Point					
		Hawks Nest	2,283	\$2,992	\$1,036		

		Taree				
		Wingham	4,188	\$0		
	SDSP 3	North Karuah				
		Hallidays Point				
		Hawks Nest	2,283	\$0		

The impact of cross-subsidies on the annual sewer supply bill for each option is shown in Table 27 and Figure 5.

Table 27: Impact of cross-subsidies on annual sewer bill

Option	Comment	Required annual sewer bill per ET (\$)	Annual \$ increase	Resulting increase in annual sewer bill (%)
1	No cross-subsidies	\$943	\$0	0%
2	SDSP1 cross-subsidised	\$944	\$1	0.1%
3	SDSP1 and SDSP2 cross-subsidised	\$982	\$39	4%
4	100% cross-subsidised	\$1,016	\$72	8%

The preferred cross subsidy option is Option 2 which involves SDSP1 being cross subsidised.

This option is preferred as it maintains affordability for development in the villages of Cooperbrook, Lansdowne, Stroud and Bulahdelah, i.e., this option avoids those villages having a sewer developer charge over \$4,500 higher than the rest of the MidCoast Water service area (except for North Karuah).

The preferred option was subject to feedback received during the public exhibition period. No feedback was received regarding the cross subsidy options and, accordingly, the preferred option will be adopted.

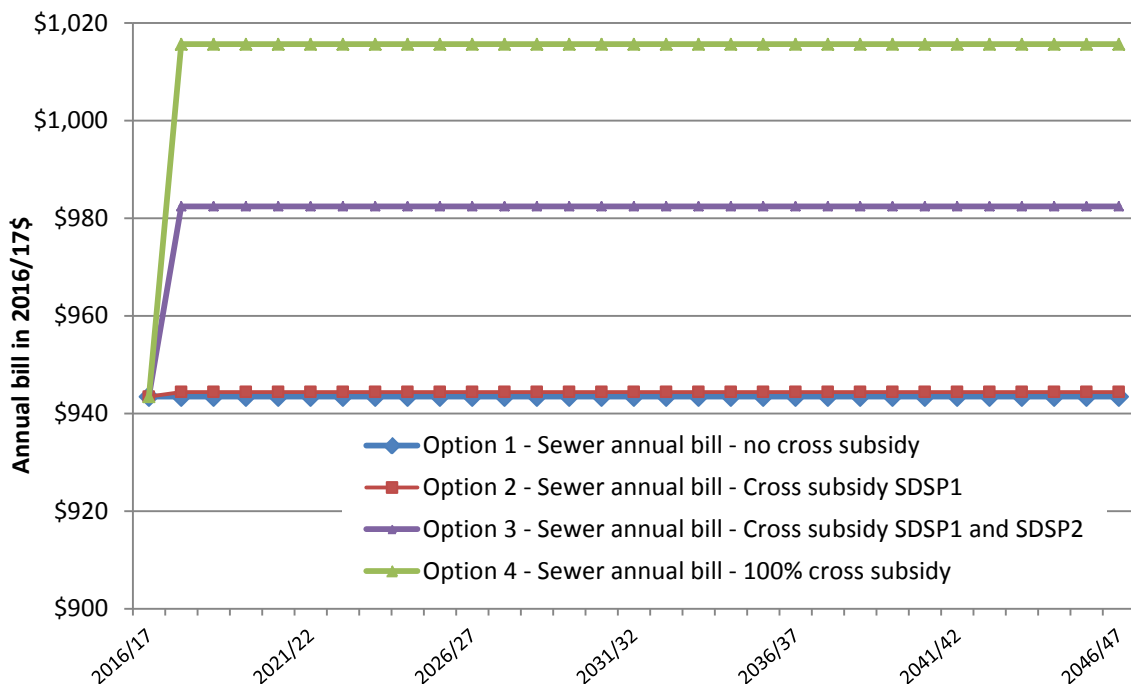


Figure 5: Impact of cross-subsidies on annual sewer bill

11 Water and Sewer Developer Charges

The total of water and sewer developer charges for service areas under different cross subsidy options is shown in Table 28. The previous developer charges are compared to the new developer charges.

Table 28: Total water and sewer developer charges for service areas

Service Area	Water Supply Scheme	Sewer Scheme	Total 2016-17	Water Option 2	Sewer Option 2	Total 2017-18
			Developer Charge	Developer Charge	Developer Charge	Developer Charge
Bulahdelah	Bulahdelah	Bulahdelah	\$15,832	\$5,970	\$8,236	\$14,206
Cooperbrook	Manning	Cooperbrook	\$15,832	\$5,970	\$8,236	\$14,206
Forster and Pacific Palms	Manning	Forster	\$15,832	\$5,970	\$8,236	\$14,206
Gloucester and Barrington	Gloucester	Gloucester	\$14,333	\$5,970	\$8,236	\$14,206
Hallidays Point	Manning	Hallidays	\$15,832	\$5,970	\$2,992	\$8,962
Harrington & Crowdy Head	Manning	Harrington	\$15,832	\$5,970	\$8,236	\$14,206
Hawks Nest & Tea Gardens	Tea Gardens	Hawks Nest	\$15,832	\$5,970	\$2,992	\$8,962
Lansdowne	Manning	Lansdowne	\$15,832	\$5,970	\$8,236	\$14,206
Manning Point	Manning	Manning Point	\$15,832	\$5,970	\$8,236	\$14,206
Nabiac	Manning	Hallidays	\$15,832	\$5,970	\$2,992	\$8,962
North Karuah	North Karuah	North Karuah	\$15,832	\$0	\$2,992	\$2,992
Old Bar and Wallabi Point	Manning	Old Bar	\$15,832	\$5,970	\$8,236	\$14,206
Stroud	Stroud	Stroud	\$15,832	\$5,970	\$8,236	\$14,206
Stroud Road	Stroud	-	\$6,155	\$5,970	\$0	\$5,970
Taree incl. Tinonee	Manning	Dawson/ Taree	\$15,832	\$5,970	\$8,236	\$14,206
Tuncurry	Manning	Hallidays	\$15,832	\$5,970	\$2,992	\$8,962
Wingham	Manning	Wingham	\$15,832	\$5,970	\$8,236	\$14,206

11.1 Forster and Tuncurry

The calculated sewer developer charges for the Hawks Nest, North Karuah and Hallidays schemes (group SDSP3) are \$2,992 which is significantly below the other two groups. The Hallidays sewer scheme encompasses Tuncurry. This means that sewer developer charges for Tuncurry are likely to be significantly lower than those for Forster, unless those for Forster (and other schemes) are heavily cross subsidised. This makes sense when giving regard to the objectives of the guidelines, which aim to direct development where it is most efficient. The Hallidays scheme is essentially 'growth ready' whereas the Forster scheme requires some investment over the coming years in order to meet growth demands.

Further, the proposed development in North Tuncurry will be serviced with 'developer provided assets' (refer to Table 1), whereas several of the proposed developments in the Forster sewer service area are listed as part of the servicing strategy and are accounted for in the future capital works plan.

11.2 Cross-Subsidy

The total effect of the preferred cross subsidy options are shown in Table 29. It can be seen that the preferred option would result in a 0.1% overall increase in the required annual bill. The preferred option is subject to feedback received during the public exhibition period.

Table 29: Total effect of the preferred cross subsidy options

Water and Sewer Option Description	Total required annual bill	Annual \$ increase	Total increase (%)
No cross subsidy	\$1,565	\$0	0%
Preferred option - Cross subsidy WDSP1 and SDSP1	\$1,566	\$2	0.1%

12 Reviewing/Updating of Calculated Developer Charges

Developer charges relating to these DSPs shall be reviewed every four to eight years. In the period between any reviews, developer charges will be adjusted on 1st July each year on the basis of movements in the CPI for Sydney as required by the Developer Charges Guidelines (excluding the impact of GST).

Developer charges will be those charges determined by MidCoast Water in this document and will be published in MidCoast Water's annual revenue policy.

13 Background documents

A background document titled *MidCoast Water 2017 DSP Background Information*, containing all the critical data including calculation models behind each DSP is available in electronic format from MidCoast Water on request.

Contact details.

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The background documents include the following in electronic format:

MidCoast Water 2017 DSP Background Document for Water Supply

MidCoast Water 2017 DSP Background Document for Sewerage Servicing

14 References

AssetVal (2016). MidCoast Water Specified Water and Sewer Infrastructure Valuation for Accounting Compliance Purposes. Doc. No. A563326.

Appendix A – Water Supply Service Area Maps

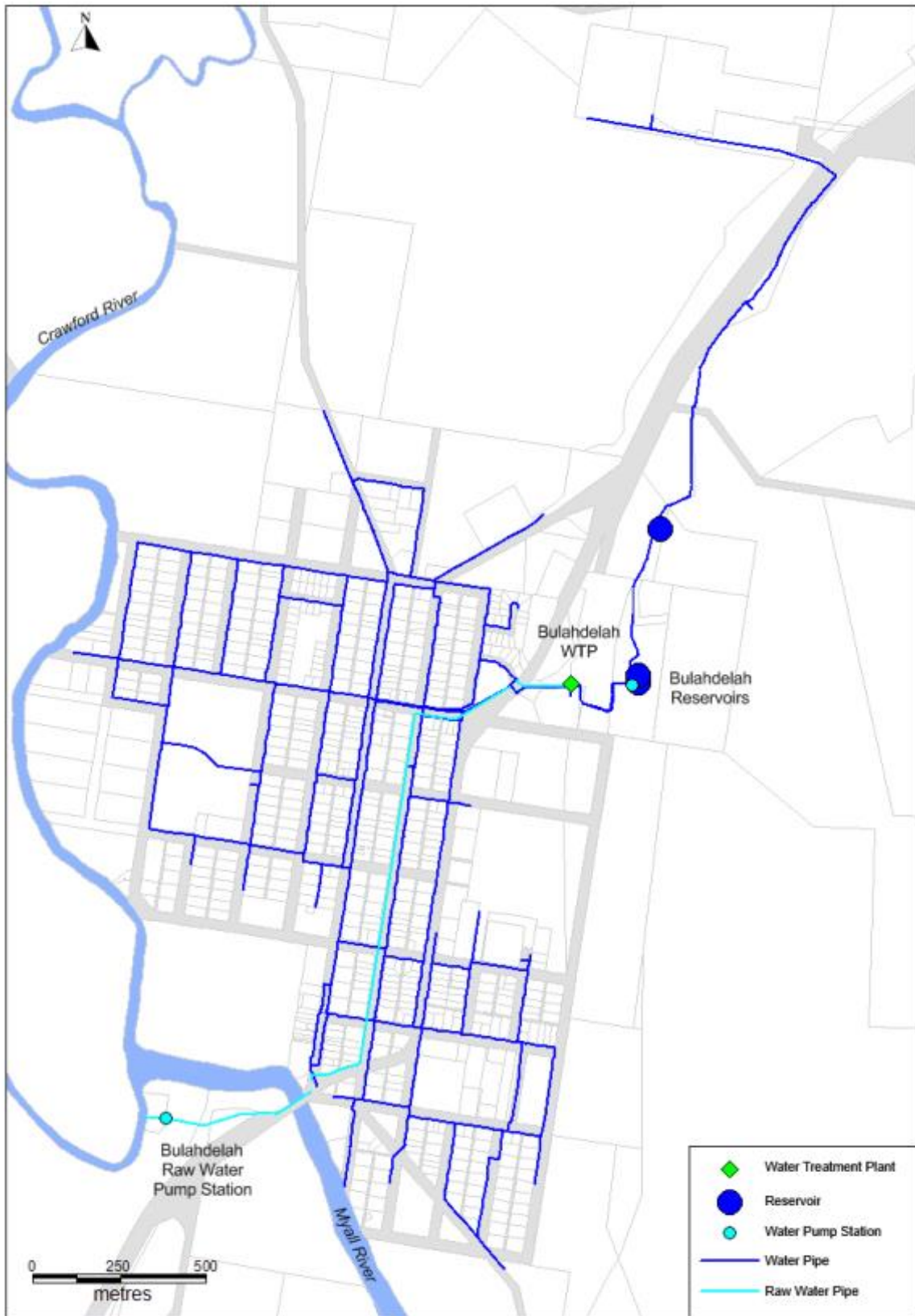


Figure 6: Bulahdelah Water Supply Service Area

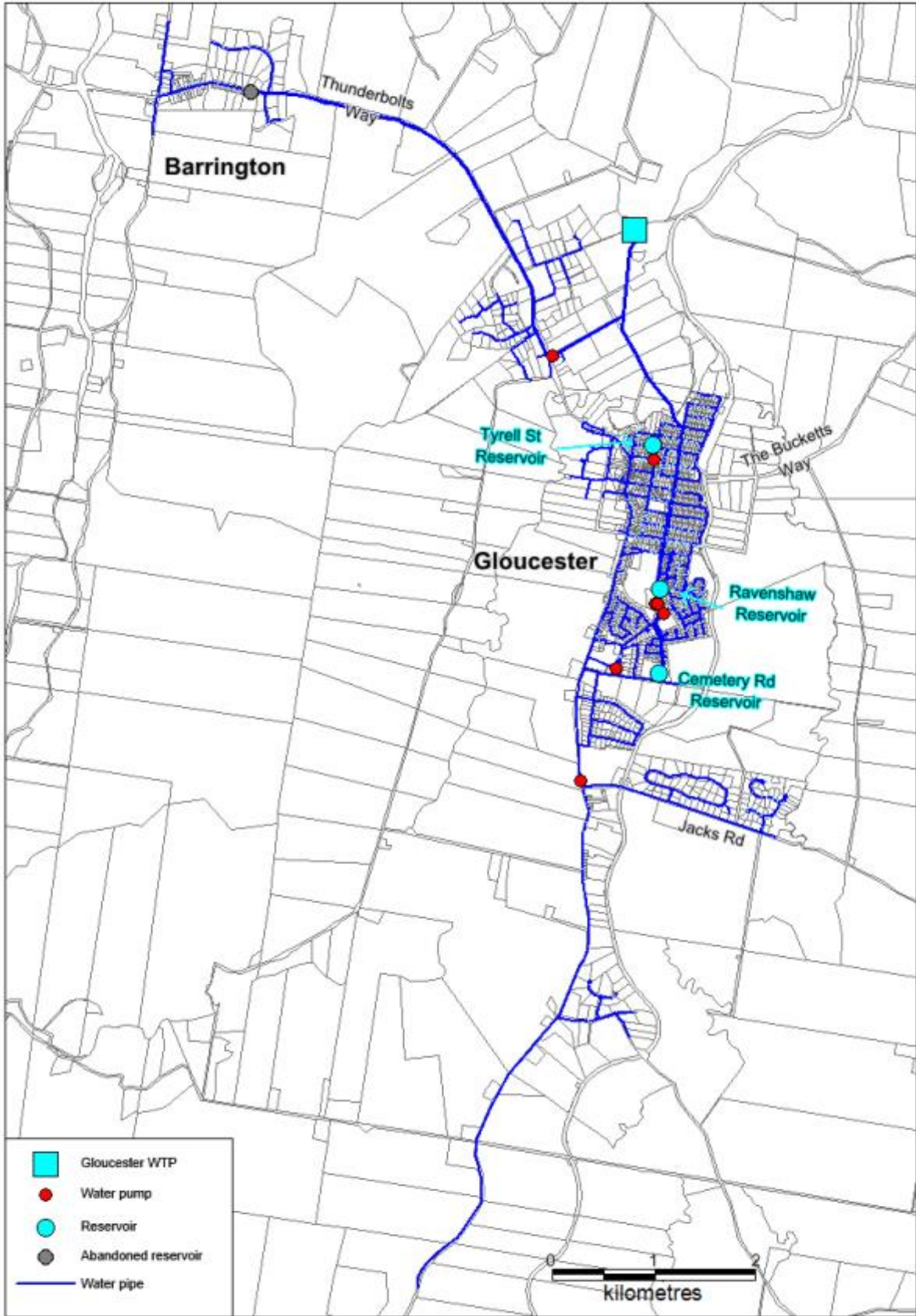


Figure 7: Gloucester Water Supply Service Area



Figure 8: Manning Water Supply Service Area

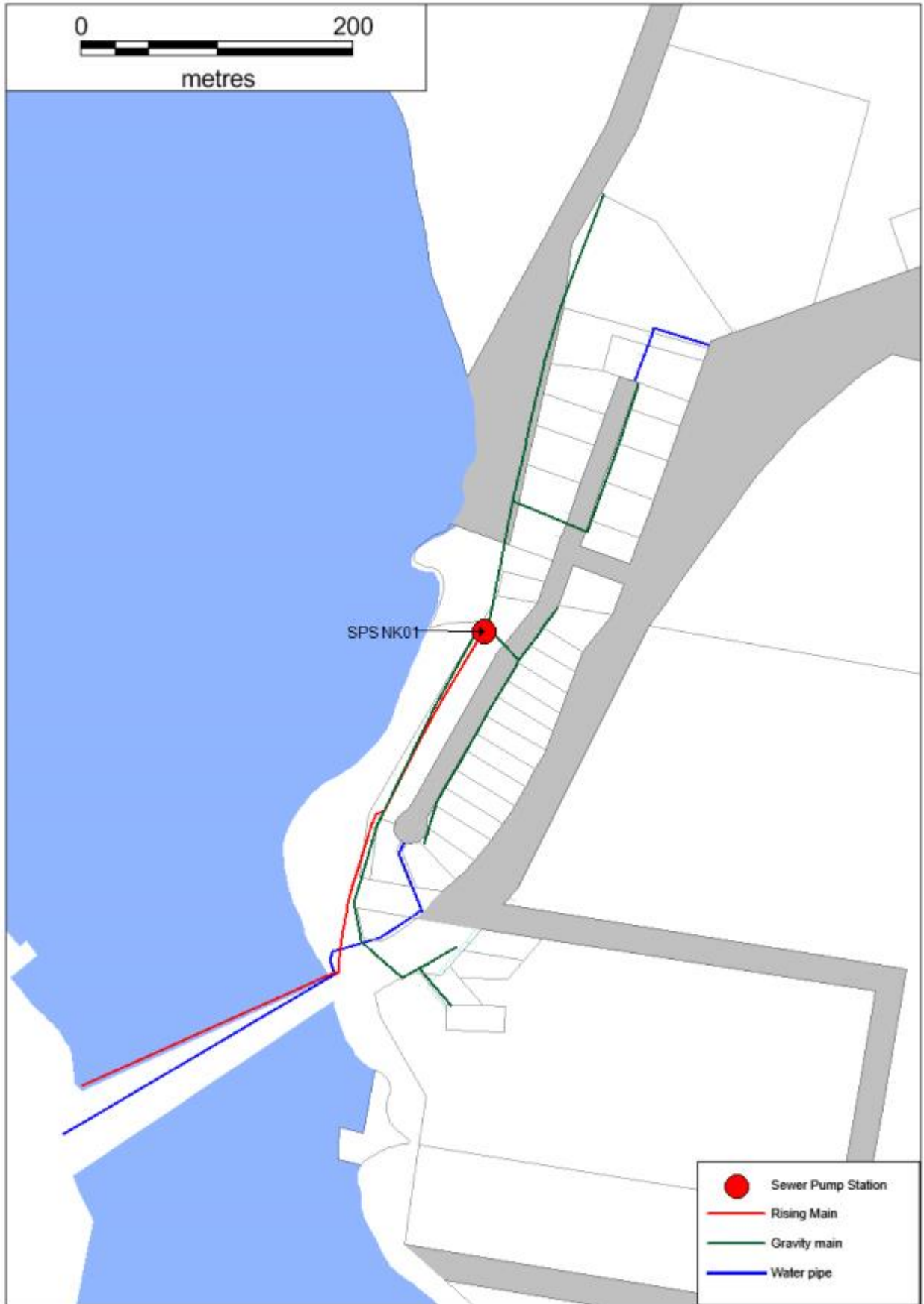


Figure 9: North Karuah Water Supply Service Area

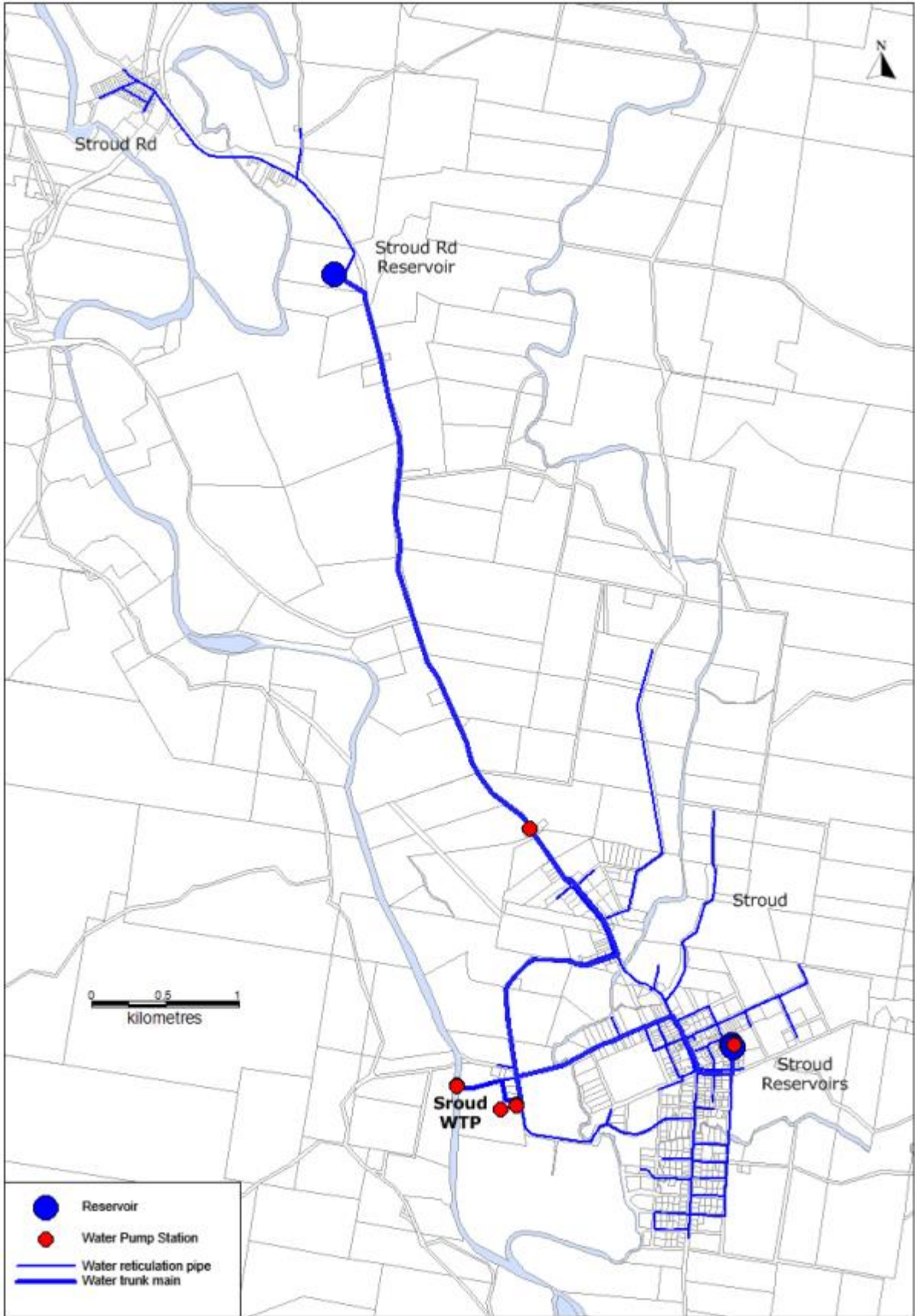


Figure 10: Stroud Water Supply Service Area

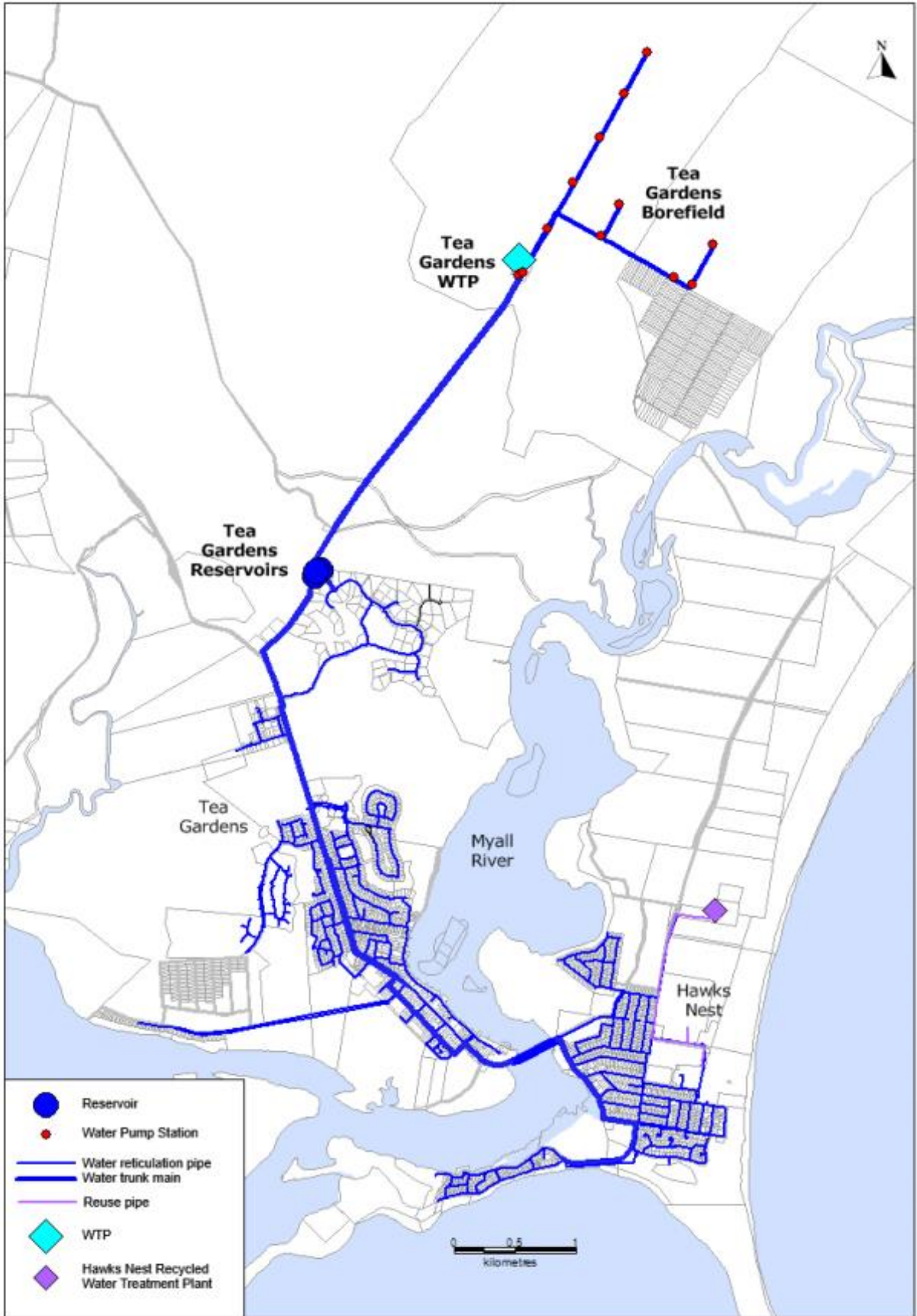


Figure 11: Tea Gardens/Hawks Nest Water Supply Service Area

Appendix B – Sewerage Service Area Maps

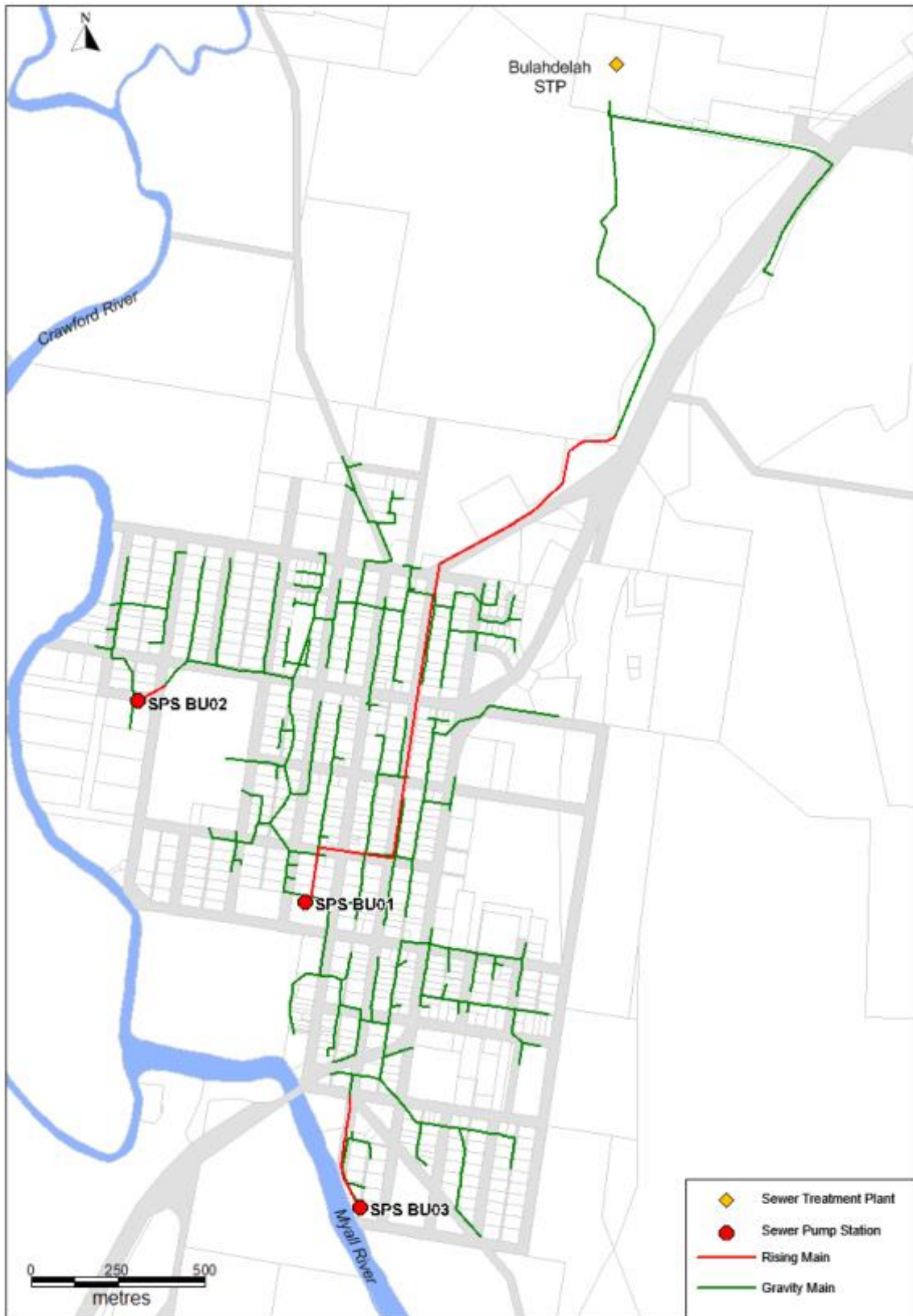


Figure 12: Bulahdelah Sewer Service Area

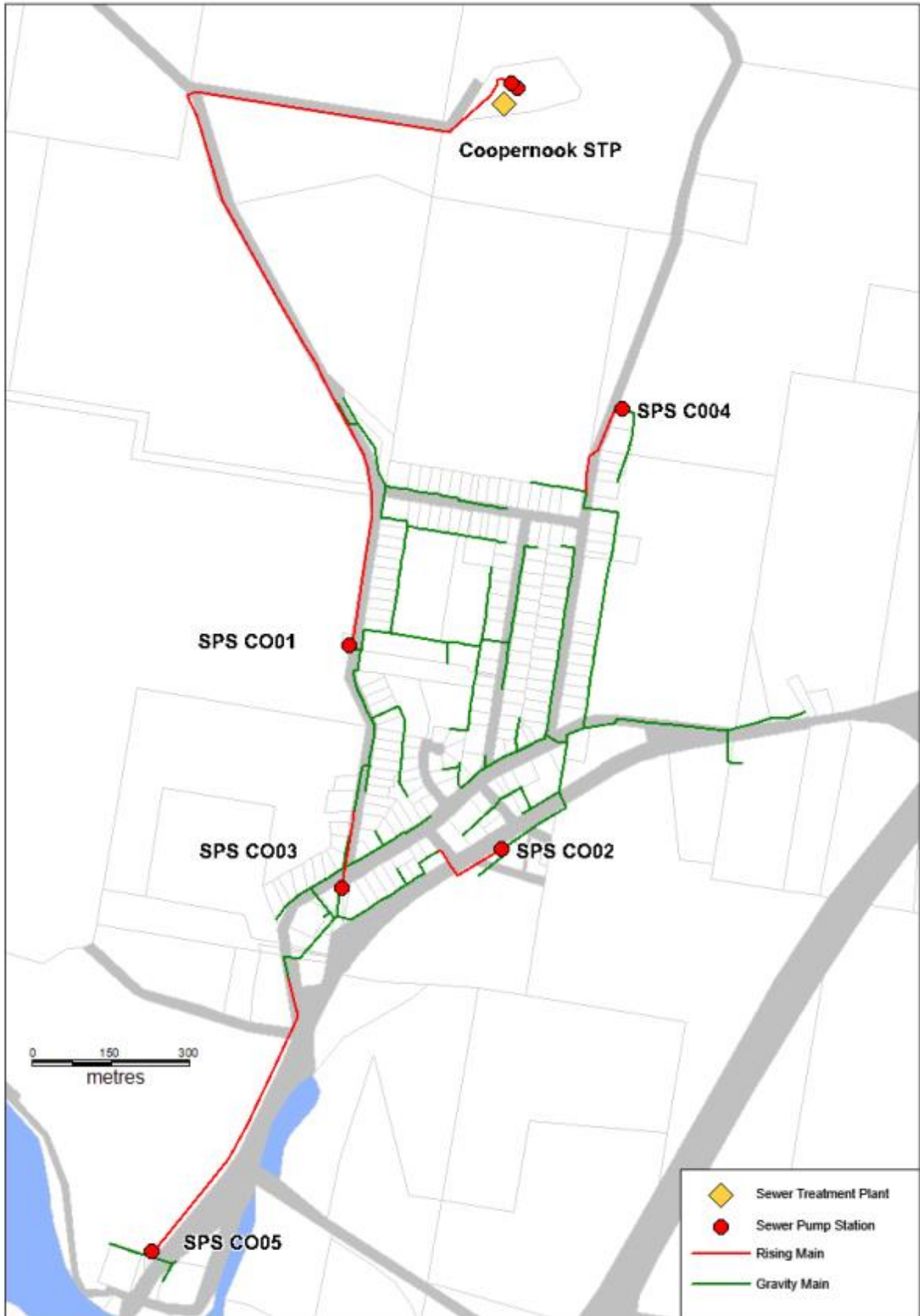


Figure 13: Coopernook Sewerage Service Area



Figure 14: Forster/Pacific Palms Sewerage Service Area

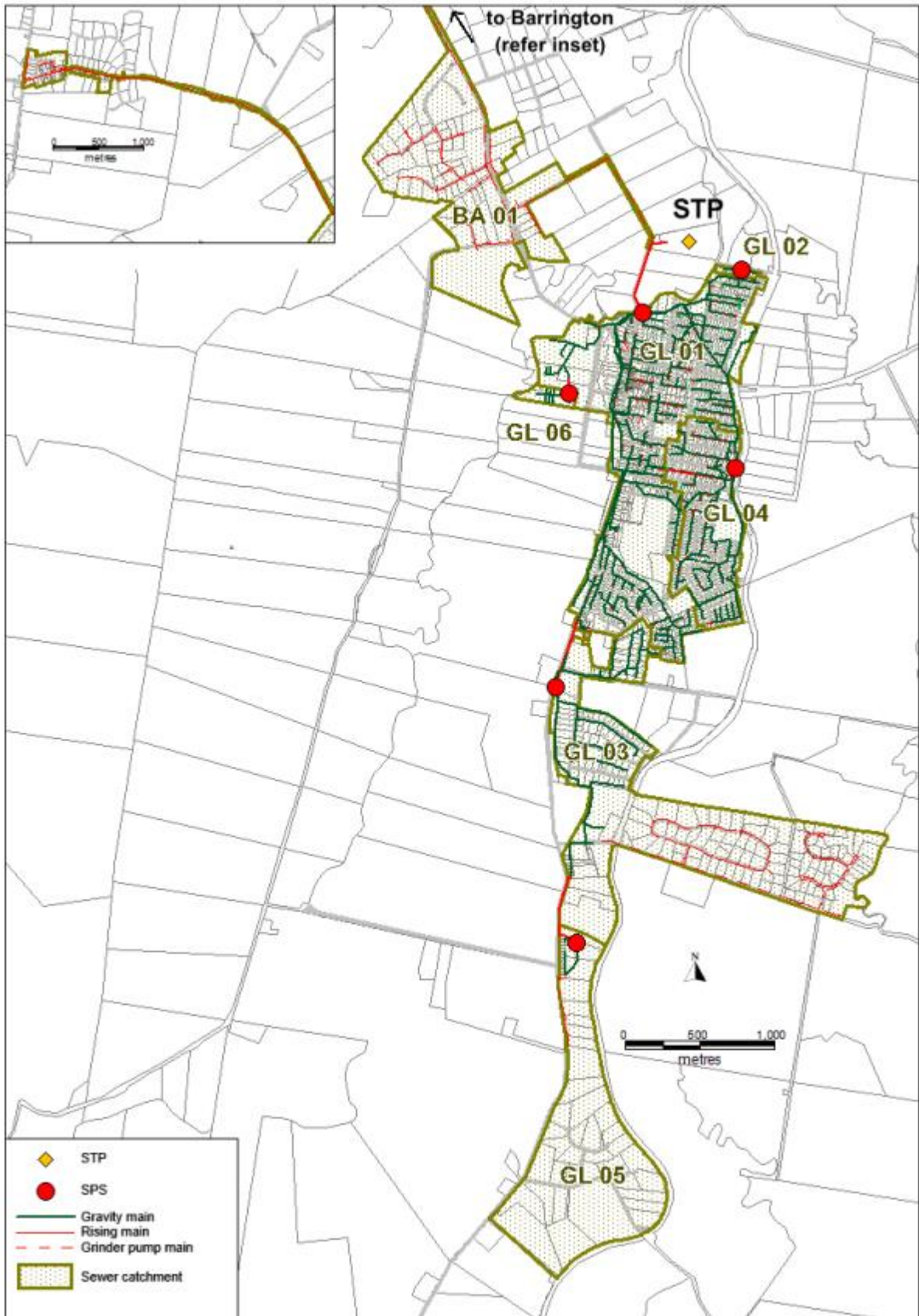


Figure 15: Gloucester/Barrington Sewerage Service Area

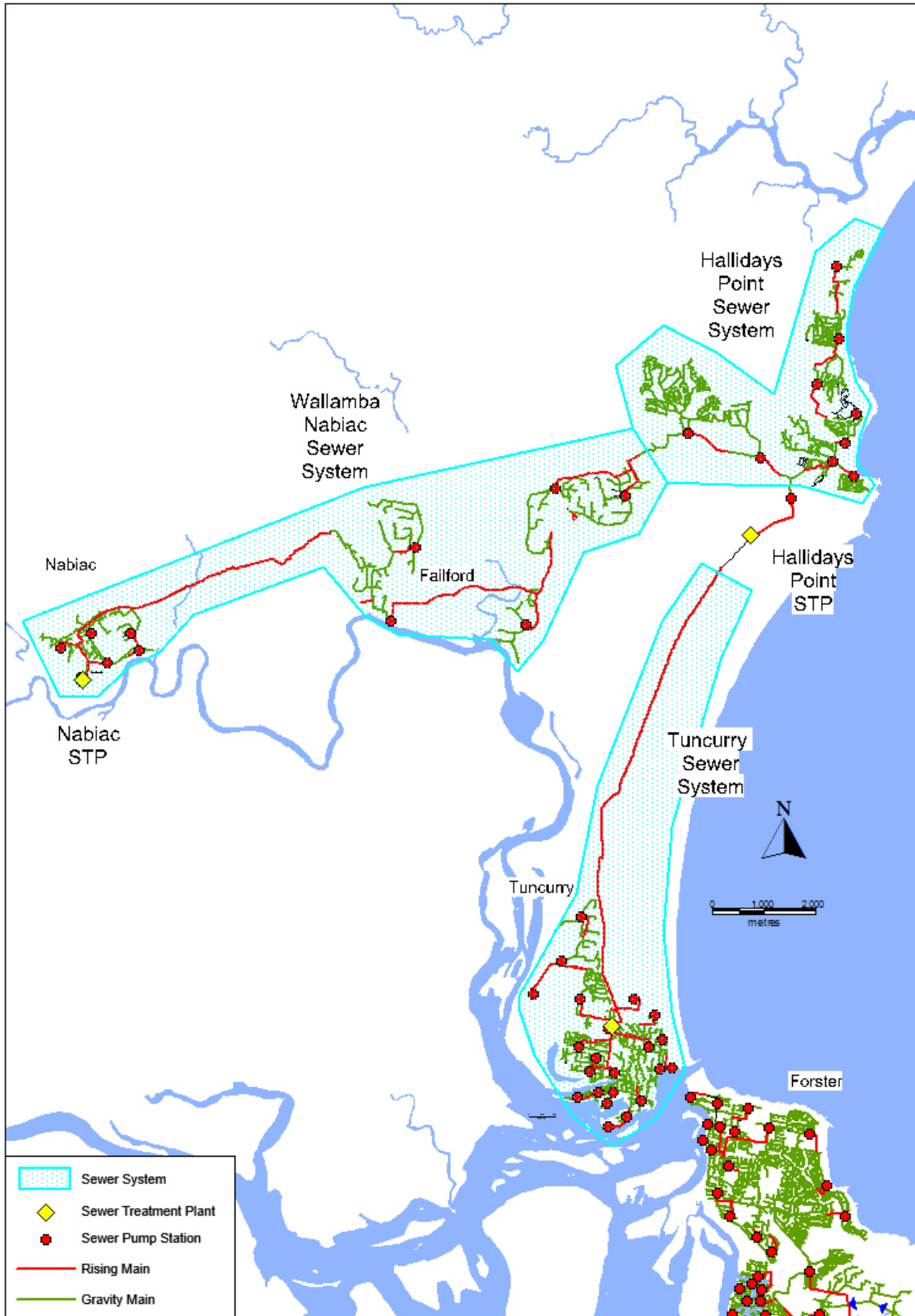


Figure 16: Hallidays Point Sewerage Service Area

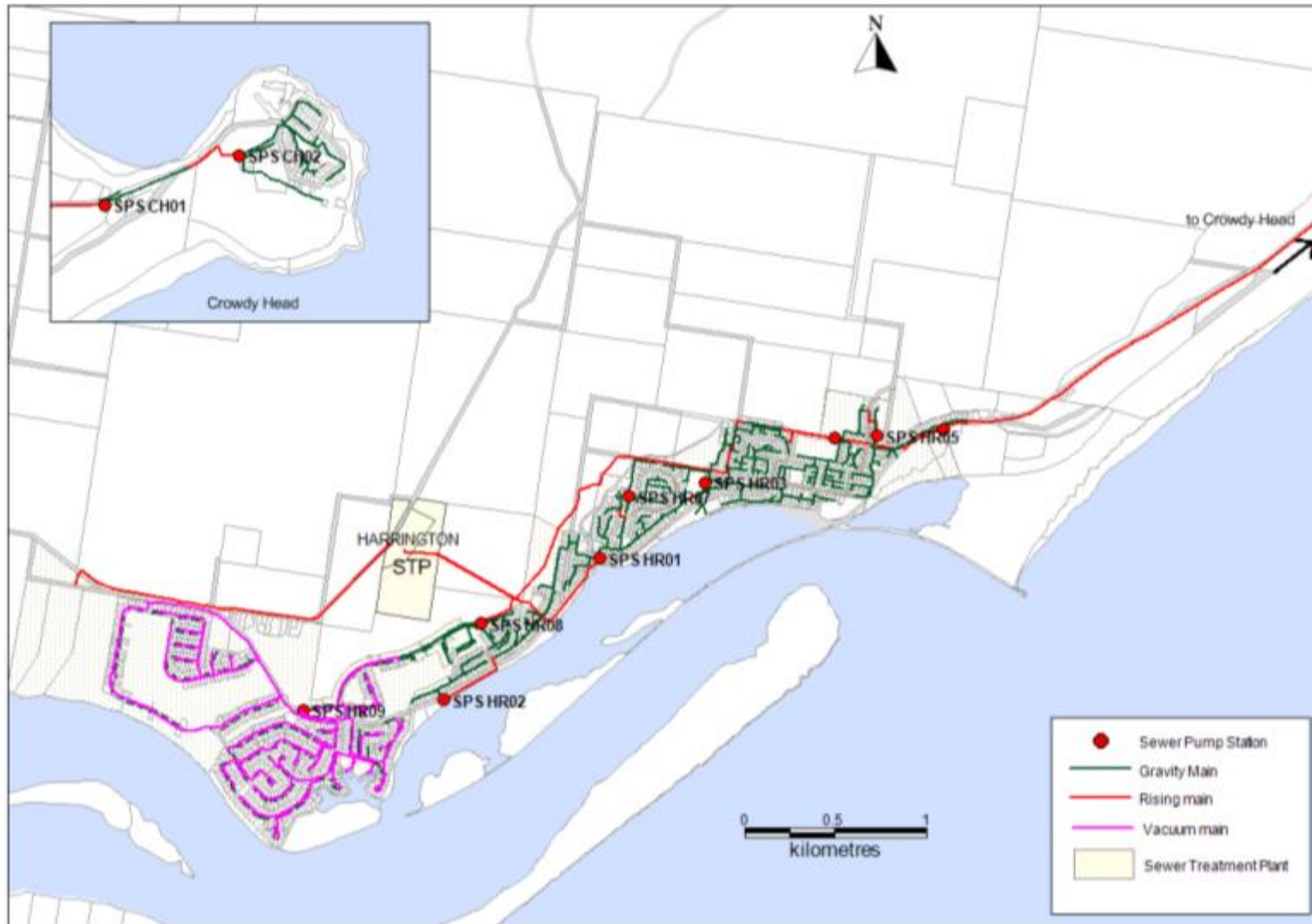


Figure 17: Harrington/Crowdy Head Sewerage Service Area

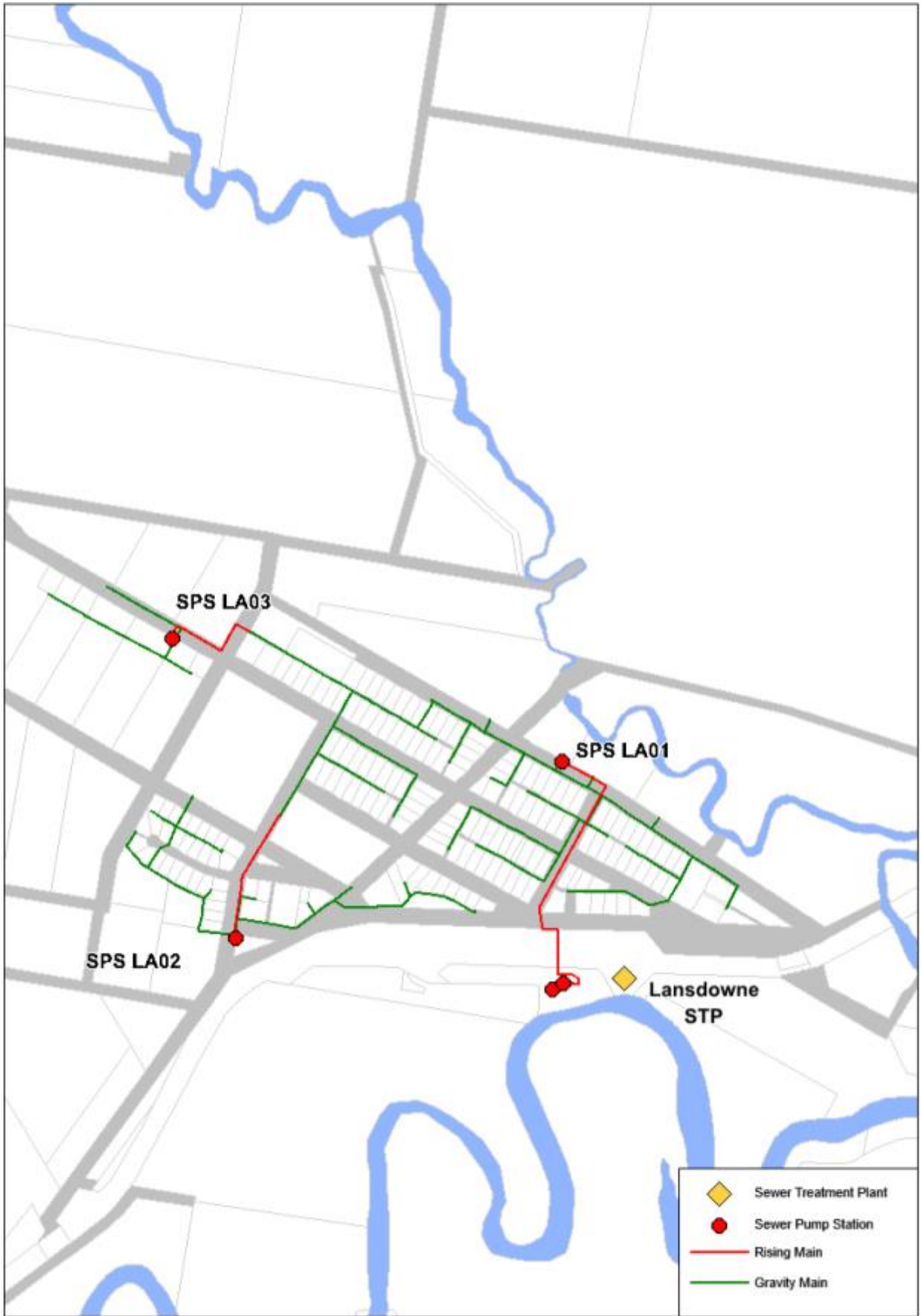


Figure 18: Lansdowne Sewerage Service Area



Figure 19: Manning Point Sewerage Service Area

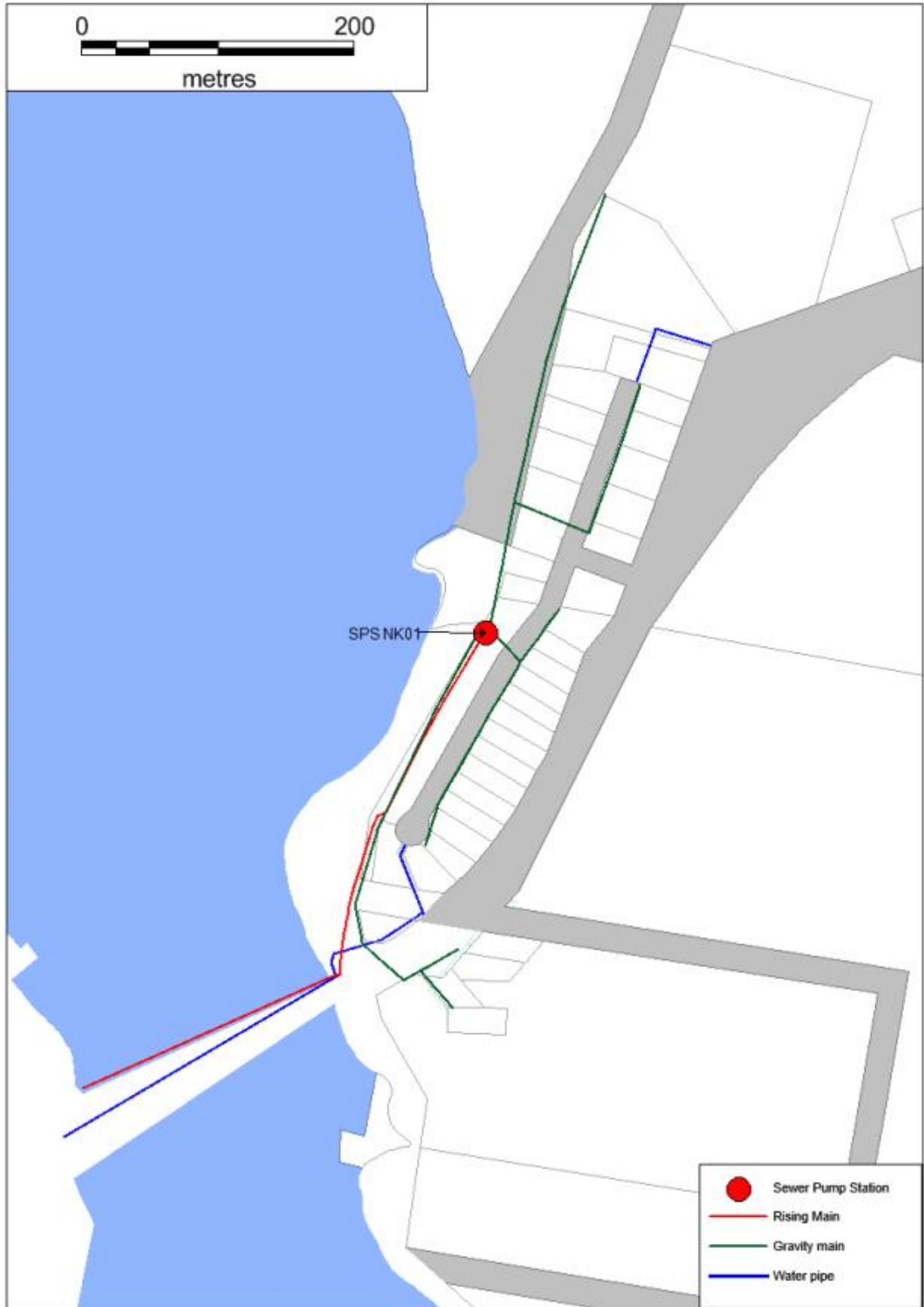


Figure 20: North Karuah Sewerage Service Area

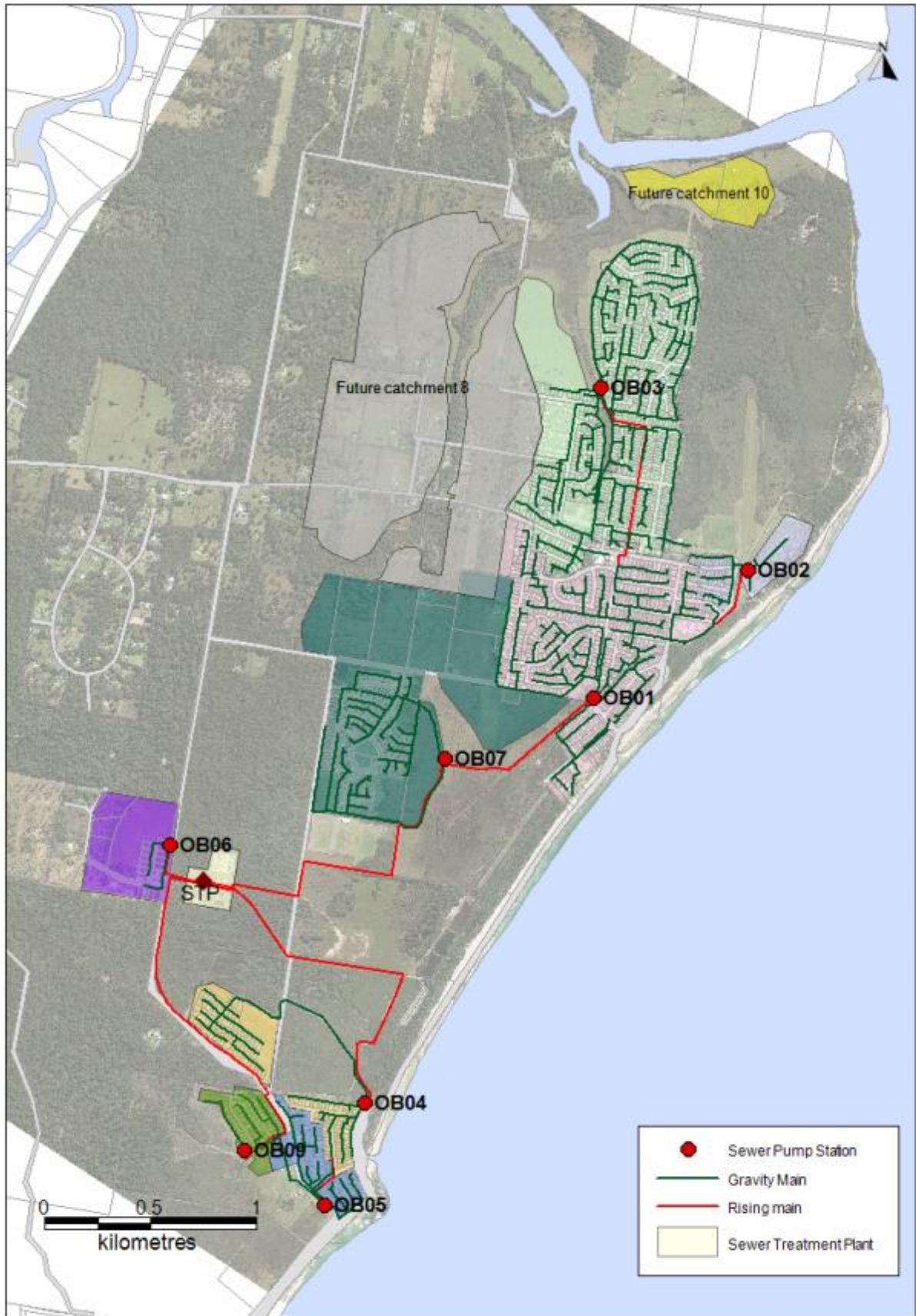


Figure 21: Old Bar Sewerage Service Area

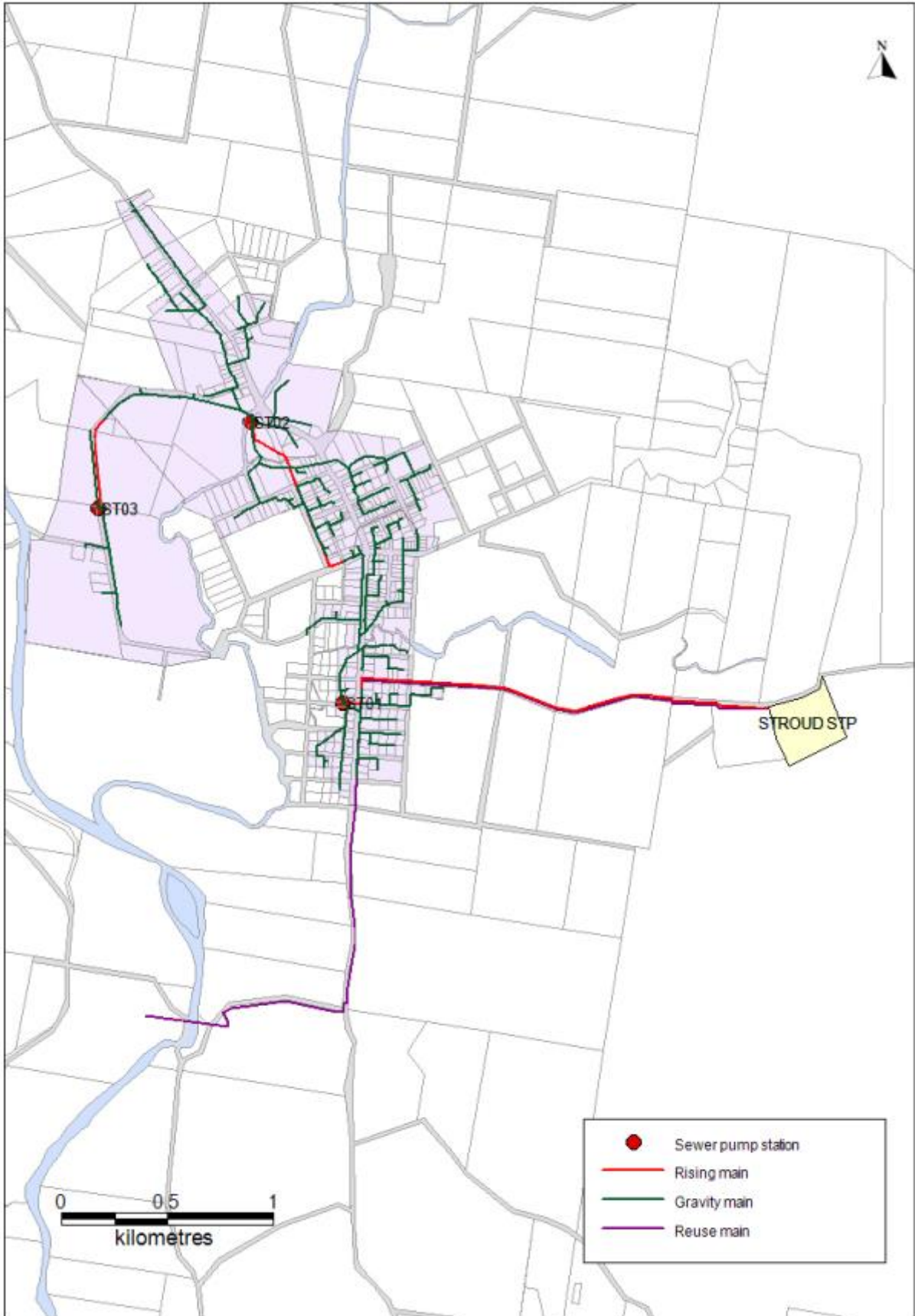


Figure 22: Stroud Sewerage Service Area

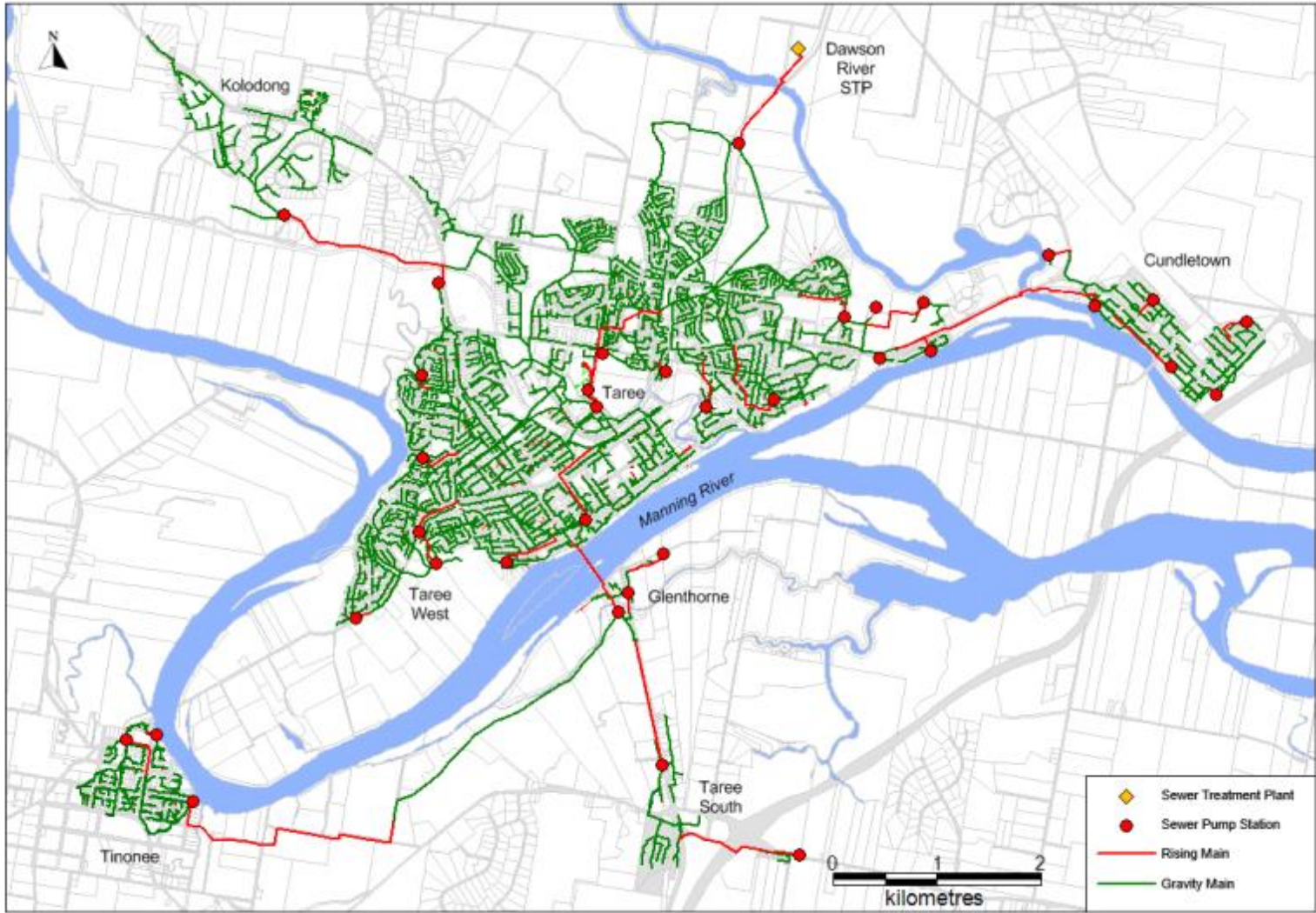


Figure 23: Taree Sewerage Service Area

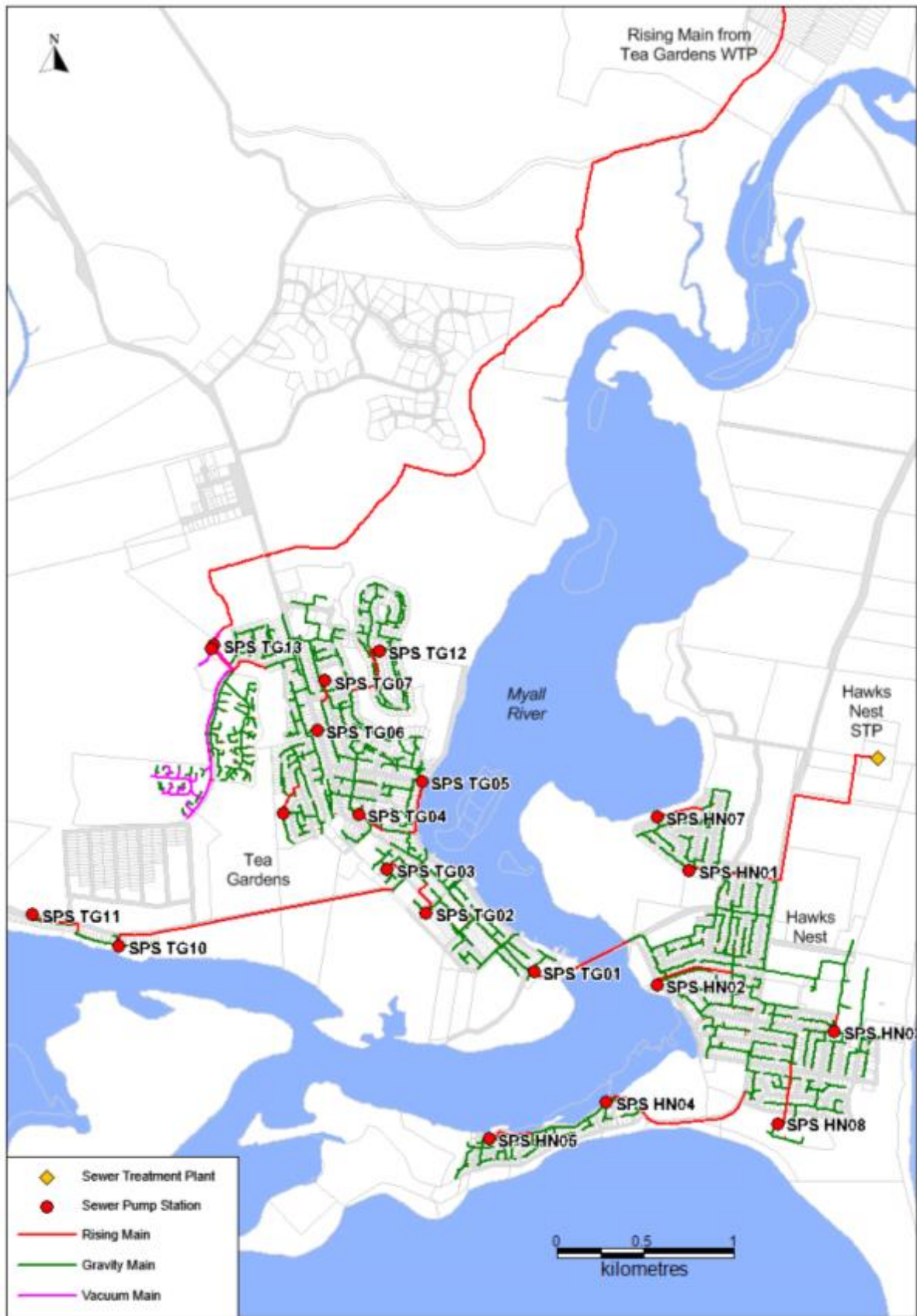


Figure 24: Tea Gardens/Hawks Nest Sewerage Service Area

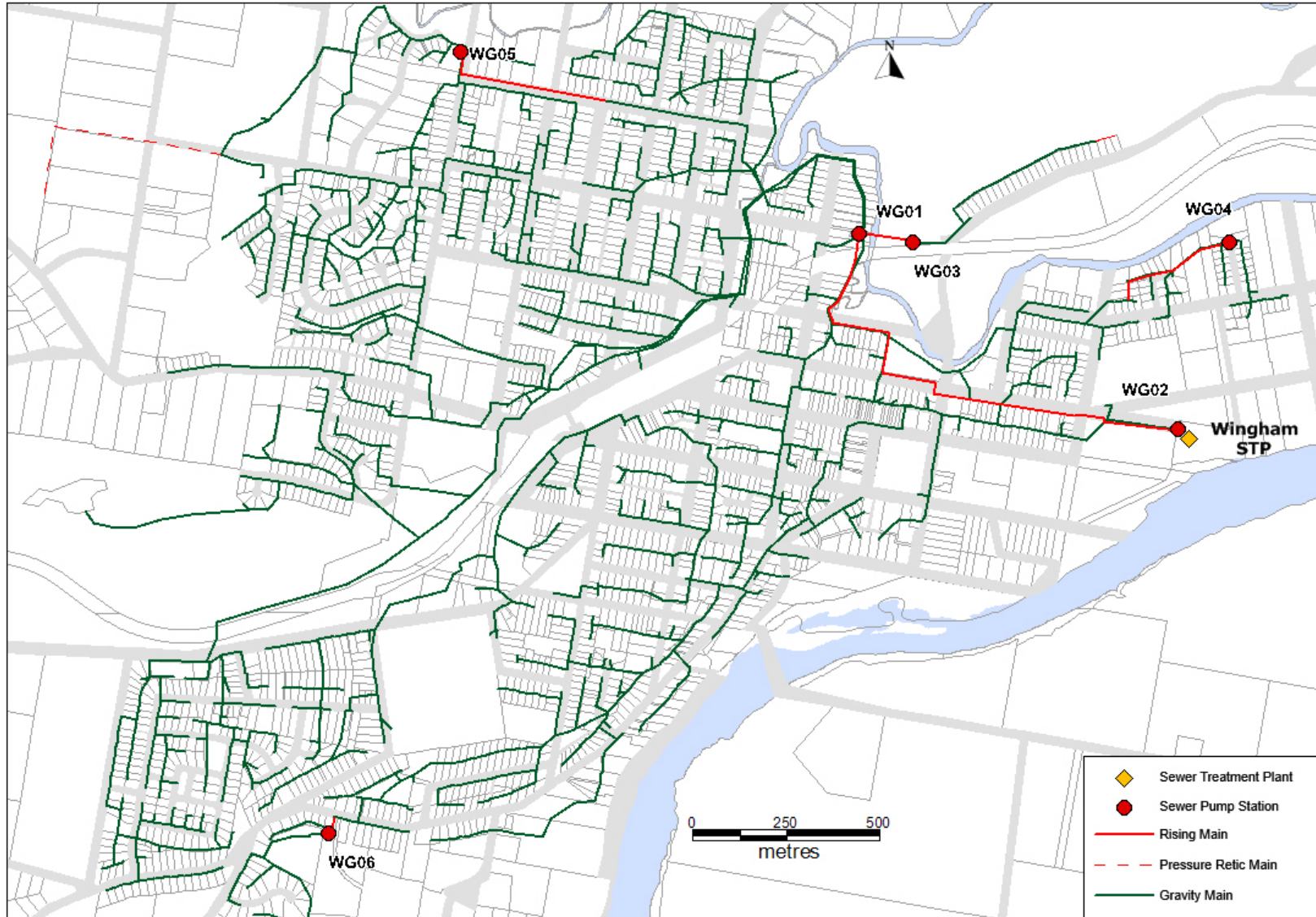


Figure 25: Wingham Sewerage Service Area

MidCoast Water 2017

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