DEVELOPMENT SERVICING PLAN

FOR

YASS VALLEY COUNCIL
WATER SUPPLY

ADOPTED: 22/ 05/2013
EFFECTIVE: 23/ 05/2013

MARCH 2013

This is a development servicing plan which has been prepared in accordance with Section 64 of the Local Government Act, 1993, and Section 306 of the Water Management Act, 2000.

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YASS VALLEY COUNCIL

DEVELOPMENT SERVICING PLAN (DSP) - WATER SUPPLY

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DEVELOPMENT SERVICING PLAN - WATER SUPPLY

Summary

This Development Servicing Plan (DSP) covers water supply Developer Charges (DC) for the Yass Valley Council. This relates to assets such as transfer mains and storage reservoirs.

This DSP has been prepared with consideration to *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (2012) *Consultation Draft*. These are the latest relevant guidelines, managed by the NSW Office of Water (NOW).

The water supply system for which Yass Valley Council seeks to levy DC includes "minor" headworks and distribution works. Reticulation is provided by developers as part of the subdivision/development works.

This DSP aims to:

1. Allow Council to require an equitable monetary contribution for the provision of water supply infrastructure to meet the demands generated by development.

2. Facilitate the future provision of a water supply to the Yass Valley Council area which meets the required levels of service with regard to flows, pressure, water quality, water quantity and the frequency of restrictions.

3. Set out the schedule and programme of proposed works to meet increasing demands for a "town water" supply generated by development.

4. Detail the contribution rates and Yass Valley Council's payment policies.

To enable this, a future demand estimate of water supply for the Council has been undertaken. The demand estimate is the basis used for determining the infrastructure required to meet the need generated by future development.

DC are applicable for existing and proposed works which serve future development.

Section 3 details the existing works and proposed works schedule for water supply infrastructure to meet the expected demand.

The calculated DC, based on full cost recovery, is tabulated below.

Yass Valley Council - Water Developer Charges

Location	Developer Charge / ET ($12/13)
Yass Existing and Other* < 500 ET, Bowning and Binalong	$12,199
Hamilton Rise	$19,125
Murrumbateman	$23,320

*"Other < 500 ET" cover the following service areas:
- Black Range Road Industrial Precinct,
- Laidlaw St, and
- Wellington Road.

DC calculations relating to this DSP will be reviewed after a period of five to six years, or when any significant changes occur in proposed works, growth projections or standards.

In the period between any reviews, DC will be revised on 1 July each year on the basis of movements in the Consumer Price Index (CPI) for Canberra, in the preceding 12 months to December, excluding the impact of GST.

There are a number of payment methods for DC and Works-in-Kind contributions are allowable subject to certain conditions.

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

1. The Introduction

1.1 Legislation

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 has been prepared in accordance with the *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (2012), managed by NOW, pursuant to Section 306 (3) of the *Water Management Act 2000.*

1.2 Purpose of the DSP

The purpose of the DSP is to achieve the following objectives:

1. Allow Yass Valley Council to require an equitable monetary contribution for the provision of water supply infrastructure to meet the demands generated by new development on headworks and distribution works.
2. Facilitate the provision of a water supply to the Yass Valley Council area which meets the required levels of service with regard to flows, pressure, water quantity and the frequency of restrictions.
3. Identify the existing relevant works and set out a schedule and programme of proposed works to meet increasing demands for a "town water" supply generated by development.
4. Detail the contribution rates and Yass Valley Council's payment policies.

The water supply system for which Yass Valley Council seeks to levy DC includes "minor" headworks and distribution works. Reticulation is provided by developers as part of the subdivision/development works.

1.3 Land to which the DSP Applies

This DSP applies to all land in the Yass Valley Council area that is within the water benefit areas and is to be connected to the water supply system as a result of development. This includes connection of land with existing residences and/or non-residential buildings if water DC have not previously been paid; and may be in addition to costs for shared, special extension of system outside the general water benefit area. Maps of the water supply areas can be found in Appendix 3.

1.4 Calculation Guidelines

This DSP has been prepared with consideration given to *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (2012). These were the latest relevant guidelines from the NOW, at the time of DC calculation, and are based on recommendations of the Independent Pricing and Regulatory Tribunal (IPART)

1.5 Date From Which This DSP Comes Into Effect

This DSP was adopted by Yass Valley Council on 22/05/2013 and came into effect on 23/05/2013.

DC will be levied pursuant to this DSP, as a condition of development consent granted on or after the day this DSP came into effect.

1.6 Relationship Between The DSP and other Existing Policies or Plans

A number of environmental planning instruments apply to the development of land to which this DSP relates, including State Environmental Planning Policies.

A full listing of the State Environmental Planning Policies applying to Yass Valley Council is attached to this DSP as Appendix No. 1. Various other Yass Valley Council Development Servicing Plans are also relevant, as listed in Appendix 2.

This DSP supersedes any other requirements related to water supply DC for the area covered by this DSP. This DSP takes precedence over any of Yass Valley Council's codes or policies where there are any inconsistencies relating to water supply developer charges. (The term "Developer Contributions" may formerly have been used to refer to Developer Charges.)

1.7 Assets Relevant to the DSP

The purpose of the DSP is that new development should pay for assets from which they benefit. Headworks and distribution works are provided by Yass Valley Council and paid for through developer charges. Reticulation works are provided by the developer. Asset categories are defined as follows:

1.7.1 Headworks

For the purposes of this DSP, headworks are defined as dams, water treatment plants and major pumping stations.

1.7.2 Distribution Works

Distribution works are primarily defined as trunk mains and service reservoirs, and also include minor pump stations.

1.7.2 Reticulation

Reticulation generally consists of all the internal distribution pipes within the subdivision or which specifically serve that subdivision. In some instances, Yass Valley Council is the developer.

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

Plans of water supply infrastructure are in Appendix 3.

2. Methodology

2.1 Calculation Method for Developer Charges

2.1.1 General Methodology

In its most simplistic description, the calculation determines the equivalent cost of one brand new set of assets to serve development as if those assets could be constructed now. Practically, however, water infrastructure consists of an on-going progression of old and new assets with complex interconnection. Water assets may be constructed many years ahead of full capacity to reflect cost effective and practical staging of works.

Only distribution works have been taken into account in the DC calculation. The construction of any reticulation pipework required will be the responsibility of the developer.

The methodology used was developed with consideration given to the latest guidelines, managed by NOW, *Developer Charges Guidelines for Water Supply, Sewerage and Stormwater* (2012) *Consultation Draft*. The NPV of Annual Charges

Method was used and this is based on the following general equation, as recommended by the Independent Pricing and Regulatory Tribunal (IPART).

Developer charge = Capital charge – Reduction amount.

The ***capital charge*** is the Present Value (MEERA basis) of all expenditure on assets used to service the development.

The ***reduction amount*** is 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

The calculated DC is based on full cost recovery.

2.1.2 Detailed Methodology

The methodology and calculation is included in Appendix 4.

2.2 Tenement and Demand Estimates

Most types of development will increase the demand on the water supply system. Water supply assets may directly or indirectly benefit a development by allowing increased demand to be met.

For residential subdivisions, the increased demand is directly related to the number of additional tenements created.

For medium density development each dwelling unit is considered to increase demand by two thirds (2/3) of a tenement. Therefore charges may be multiplied by 0.67 in the case of town houses of less than 3 bedrooms, cluster housing, villa units, medium density, dual occupancy and 1 bedroom flats.

The increased demands generated by other types of development (including non-residential) need to be assessed in terms of additional equivalent tenements. The number of additional equivalent tenements is calculated in accordance with the Public Works Department's *Water Supply Investigation Manual*, administered by NOW and/or historical data for similar developments respectively.

Planned development of the water supply system is based on these long-term growth projections.

DC pay for the provision of system capacity to suit new development. New development may be served by a combination of existing and/or new works.

2.3 Works Covered by This DSP

The existing and proposed works covered by this DSP are itemised in Section 3. All Yass Valley Council's headworks and distribution works, subject to DC Guidelines, are shown on these tables.

2.4 Cost Estimates

"Current replacement" cost estimates of the existing and proposed works are based on unit rates for construction published in the *NSW Reference Rates for Valuation of Existing Water Supply, Sewerage and Stormwater Assets* by NSW Department of Land and Water Conservation, managed by NOW. These cost estimates are shown in Section 3.

3. Works Included and Cost Estimates

Both existing and proposed works which are relevant for inclusion in this DSP are itemised in Appendix 4. Cost estimates and year of construction information are included.

4. Levels of Service and Design Parameters

4.1 Levels of Service

System design and operation are based on providing the following key Potable Water Supply Levels of Service to Yass Valley Council:

EQUIVALENT TENEMENT

- An ET is an average annual water consumption of 250 kL/ET

AVAILABILITY

- Domestic average annual water consumption of 250 kL/ET
- Domestic peak day consumption of 1,500 L/ET

PRESSURE

- Provide a minimum water pressure of 12 metres (120 kPa) at the property boundary when delivering 0.2 L/s flow rate

INTERRUPTIONS

- No unplanned interruptions greater than 4 hours
- No programmed interruptions greater than 12 hours
- Not more than 5 interruptions per 1,000 connections per year

RESPONSE TIME

- Respond on site within 2 h in Yass Township and within 8h in villages

QUALITY

- Treated water to comply with the 2011 Australian Drinking Water Guidelines (ADWG) 98% of the time
- Not more than 4 quality complaints per 1,000 connections per year

These levels of service are targets that Yass Valley Council aims to achieve. They are not intended to form a formal customer contract.

4.2 Design Parameters

Investigation and design of water supply system components is based on the *Water Supply Investigation Manual* (1986). This manual was prepared by NSW Public Works and is administered by NOW.

Technical reports relating to the system components in the DSP are included in Section 6, References

5. Developer Charges

5.1 Headworks and Distribution Works

The calculated DC is tabulated below. This is based on full cost recovery.

Yass Valley Council - Water Developer Charges

Location	Developer Charge / ET ($12/13)
Yass Existing and Other* < 500 ET, Bowning and Binalong	$12,199
Hamilton Rise	$19,125
Murrumbateman	$23,320

*"Other < 500 ET" cover the following service areas:
- Black Range Road Industrial Precinct,
- Laidlaw St, and
- Wellington Road.

Details of the derivation of the calculated DC is included in Appendix 4.

5.2 Reticulation

Yass Valley Council does not charge a monetary charge for the construction of reticulation pipework. Developers are responsible for the provision of these works which would generally be handed over to Yass Valley Council upon completion of the development.

5.3 Payment of Developer Charges

5.3.1 Timing of Payments

Subject to clauses 5.3.2 and 5.3.3 the timing for payments of DC is as follows:

For complying development	Following the issuing of a complying development certificate and prior to the commencement of work (whether or not the certificate is issued by Council or an accredited certifier).
For other development	Prior to the release of the Construction Certificate.
For subdivision	Prior to the release of the Linen Plan.

5.3.2 Method of Payment

Developer charges must be made in the form of monetary payments to Yass Valley Council. Development consents requiring the payment of a DC will contain a condition specifying the amount payable in monetary terms at the time the consent is issued. A note will be attached to the consent condition which will advise that the Developer Charge 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.

The deferral of payment of contributions to the point of sale of each lot is permissible subject to application in writing to Council, and approval by the General Manager. Deferred payment of contributions will be subject to the following requirements:

- The maximum time frame granted for deferment is twenty-four (24) months;
- The applicant is to provide Council with an original copy of an unconditional Bank Guarantee in favour of Council to the total value of contributions payable, plus interest calculated for twenty-four months from the date of deferment;
- Interest will be charged in accordance with Councils Fees and Charges at the rate applicable for outstanding rates at the time the application for deferred payment is approved;
- Should the contributions not be paid by the completion of the approved period, Council may exercise its right under the agreement to call in the Bank Guarantee without notice; and
- Council will not permit the payment of contributions in instalments.

5.3.3 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:

- The proposed work satisfies the demands for the kind of public amenities and facilities for which the contribution is sought;
- 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;
- 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;
- Agreement has been reached as to the standard of work to be undertaken; and
- 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 will 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 the 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.

Please note 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 Works 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, 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.

5.4 Staged Subdivision/Development

In the event of a staged subdivision or development, Yass Valley Council will accept the staged payment of DC as specified above, that is, prior to the release of the Linen Plan for each stage of subdivision and prior to the release of any building approval for a particular stage of a development.

Deferred payment of DC other than in accordance with Yass Valley Council's requirements for Staged Subdivision and Development, is not permitted by Yass Valley Council.

5.5 Reviewing and Revising of Developer Charges

DC calculations relating to this DSP will be reviewed after a period of five to six years, or when any significant changes occur in proposed works, growth projections or standards.

In the period between any reviews, DC will be revised on 1 July each year on the basis of movements in the Consumer Price Index (CPI) for Canberra, in the preceding 12 months to December, excluding the impact of GST.

6. References

(1) Department of Land and Water Conservation, *Guidelines - Developer Charges for Water Supply, Sewerage and Stormwater* (2002) *Consultation Draft*
(2) NSW Public Works *Water Supply Investigation Manual* (1986)

APPENDIX No. 1 - State Environmental Planning Policies Applying To Yass Valley Council Water Supply

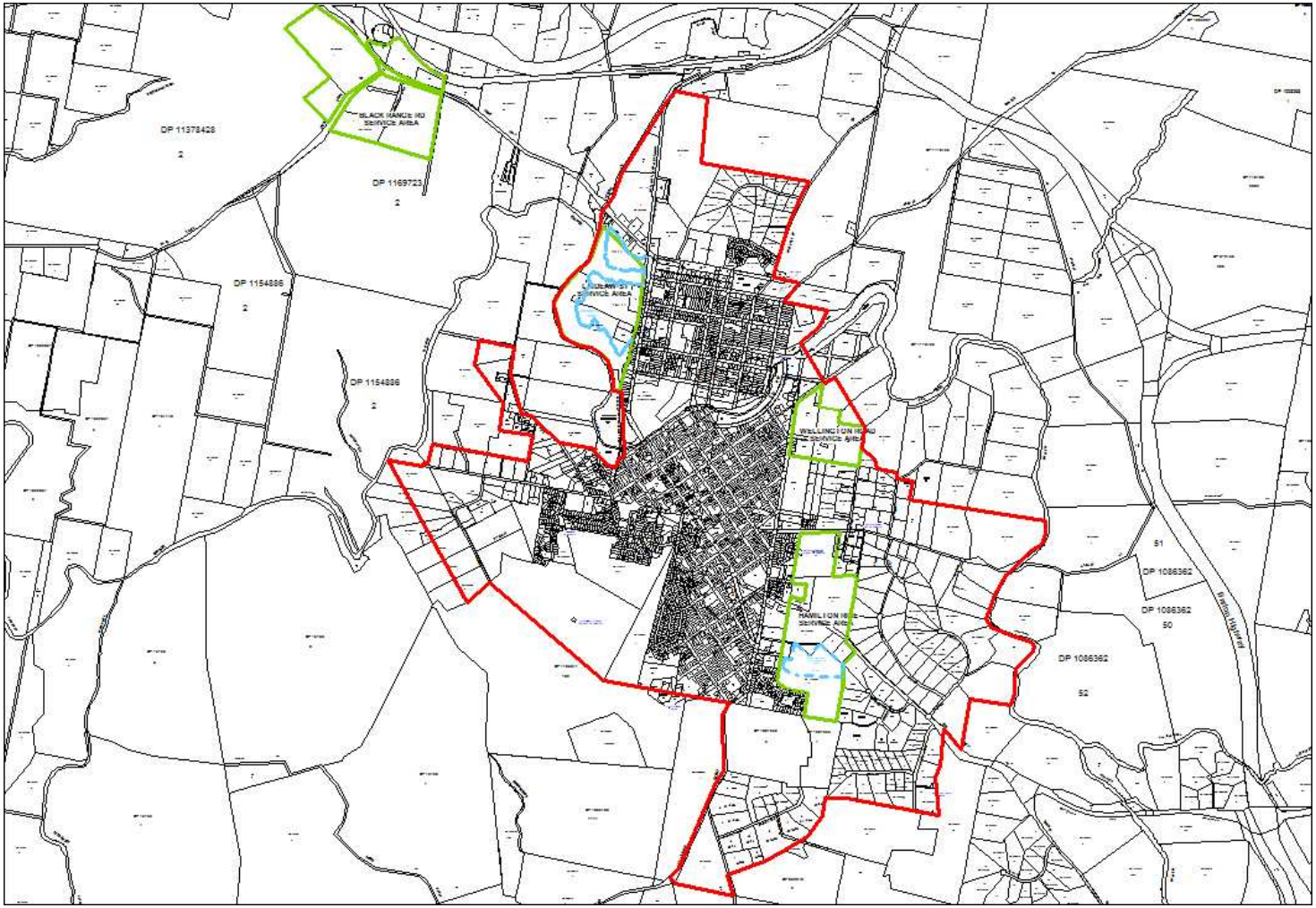
At the time of preparation of this DSP, there were no State Environmental Planning Policies applicable to the Yass Valley Council water supply. Should policies become applicable during the life of this DSP, these should be listed in this Appendix.

APPENDIX No. 2 - Yass Valley Council – Other DSP's Relevant

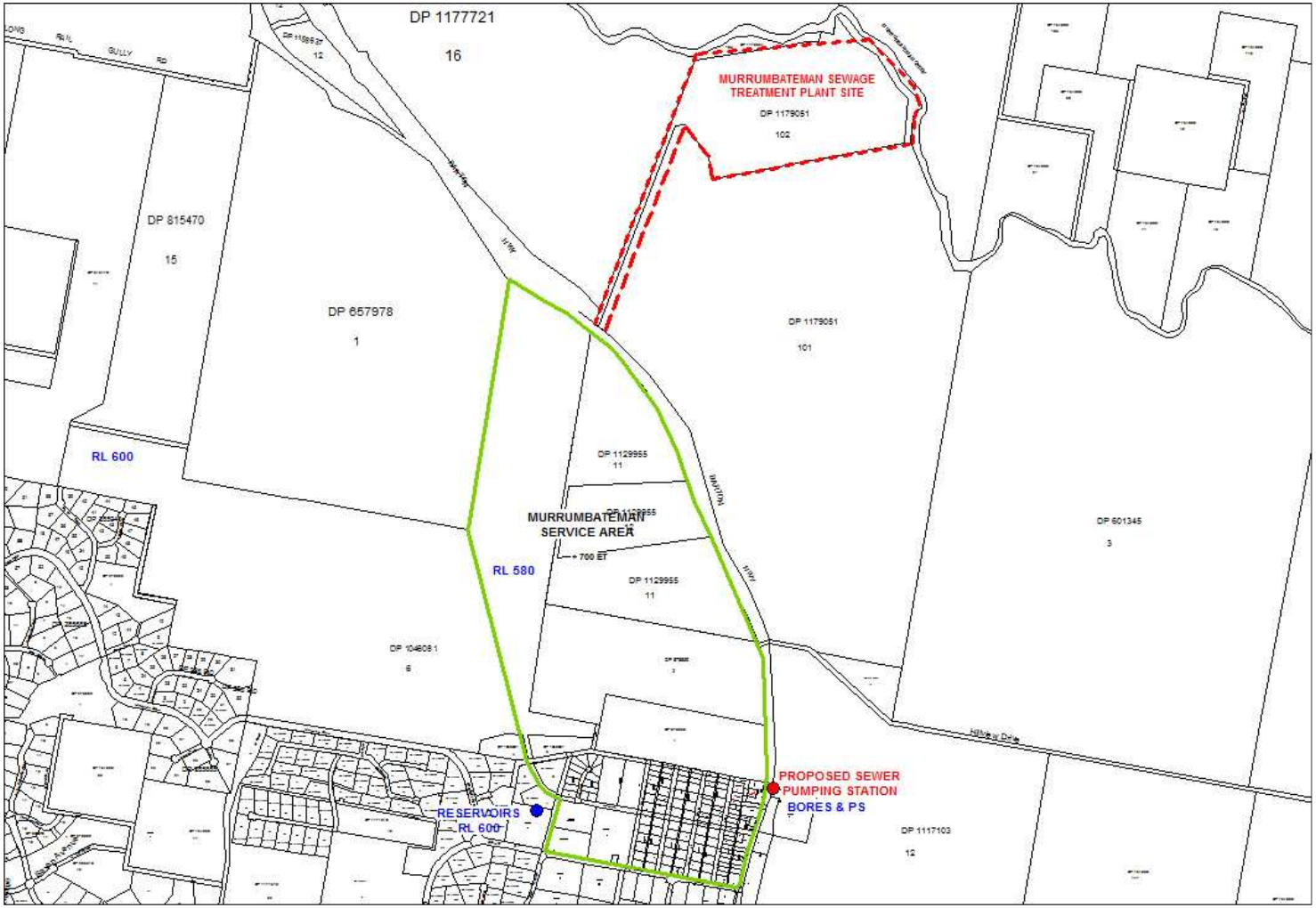
Yass Section 64 Sewerage Plan

Yass Section 94 Plan

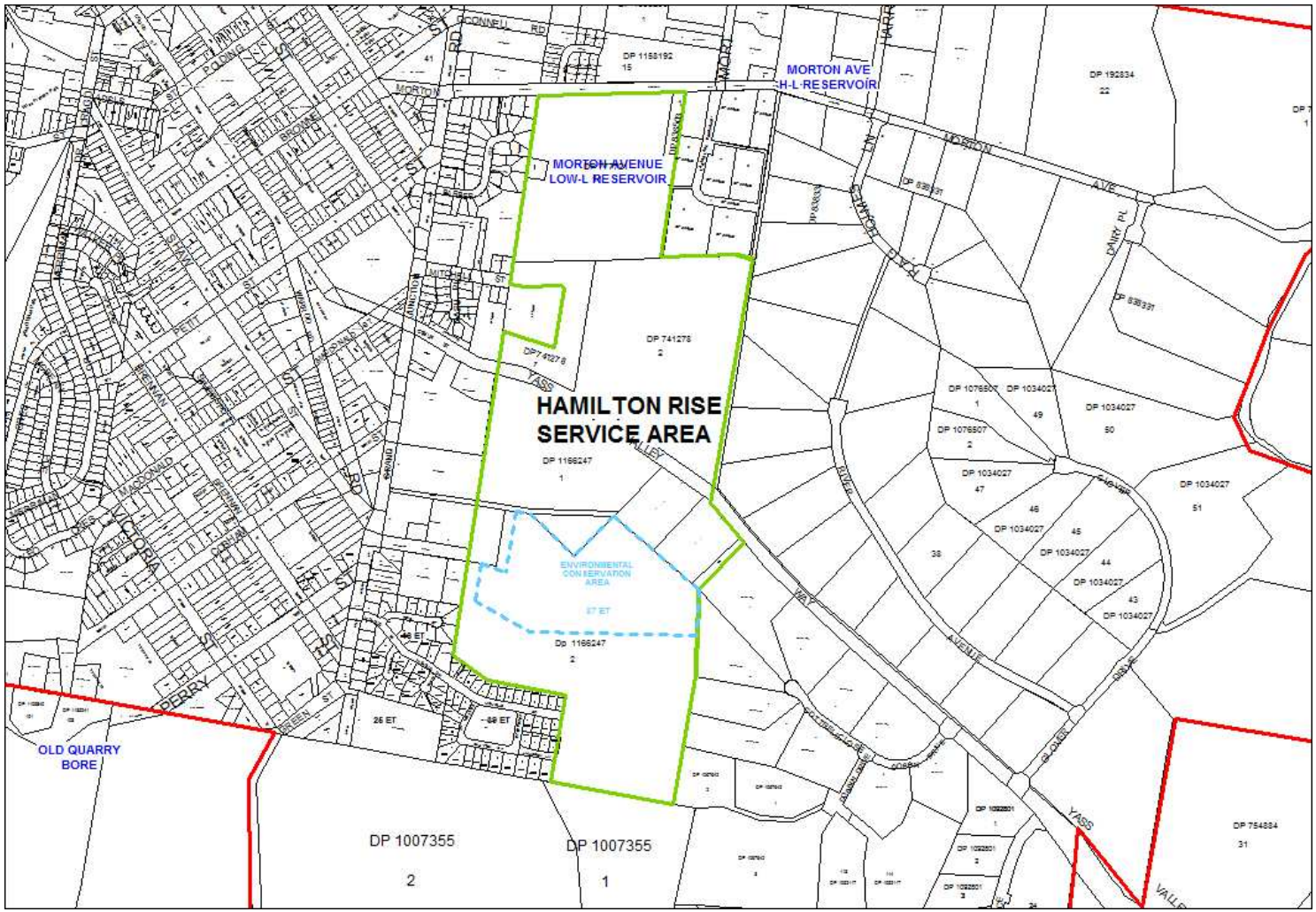
APPENDIX No. 3 - Plans Of Service Areas



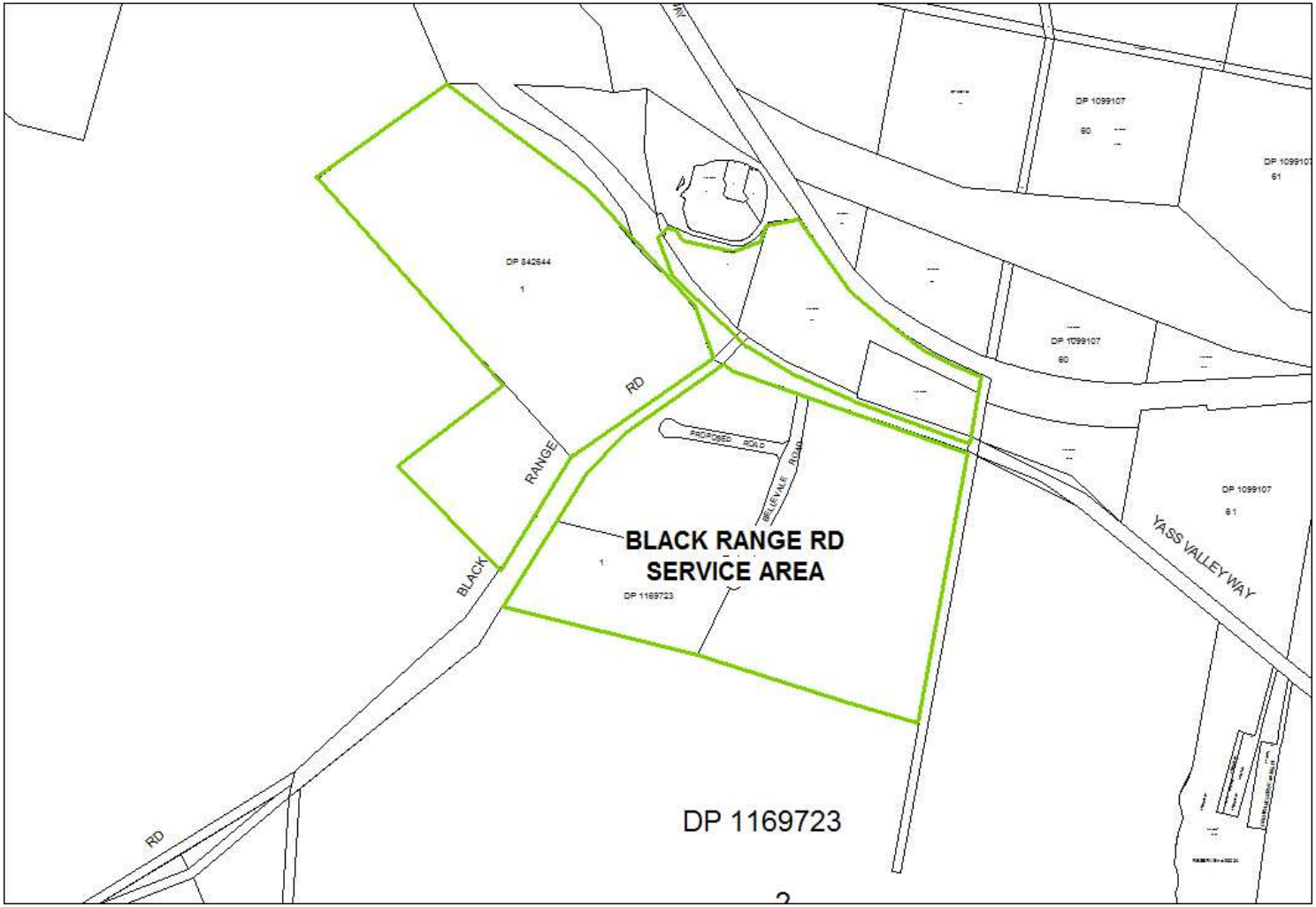
Yass Service Area



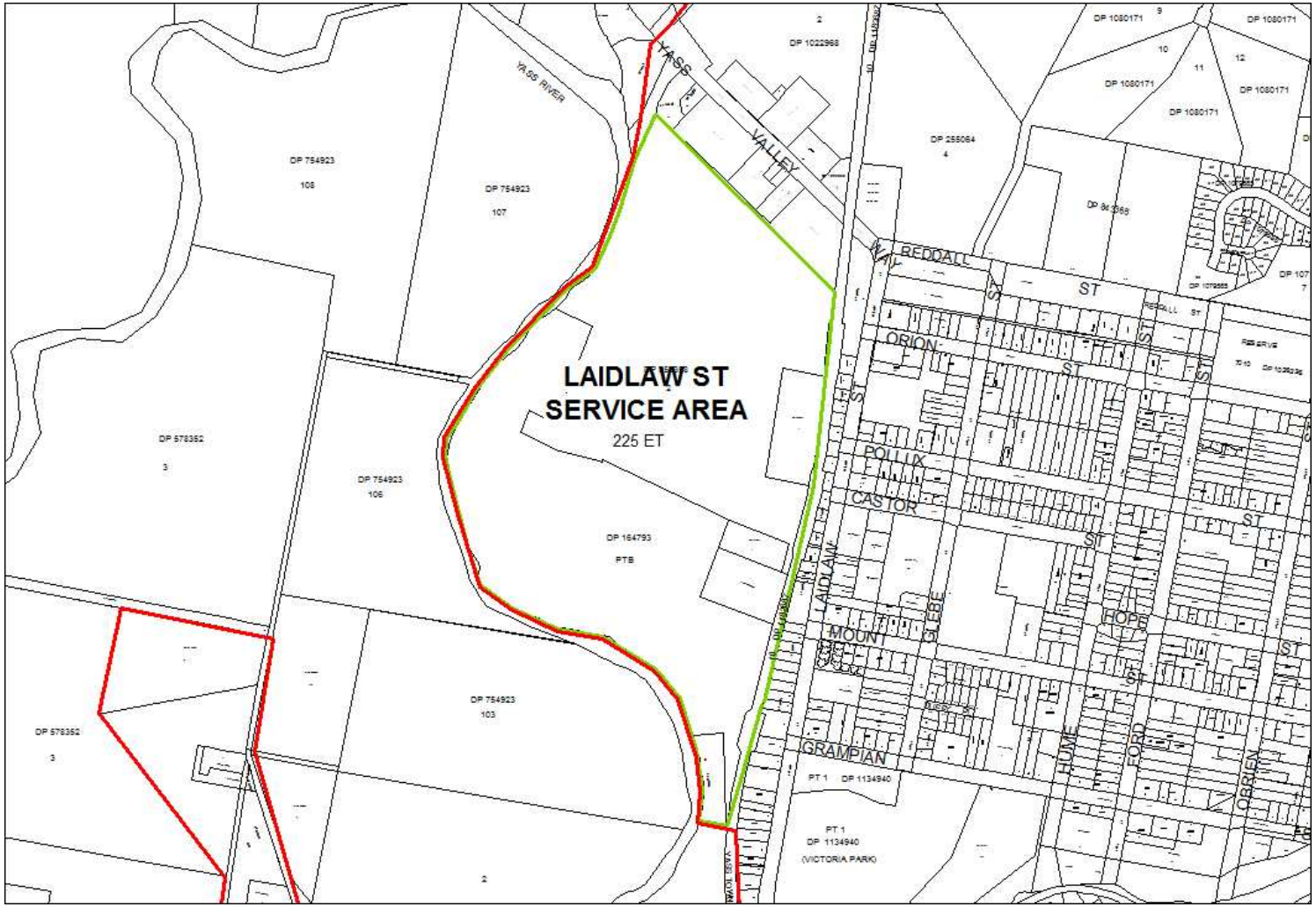
Murrumbateman Service Area



Hamilton Rise Service Area



Black Range Road Service Area



Laidlaw St Service Area

Wellington Road Service Area

APPENDIX No. 4 – Calculations

Developer Charges for Water Supply and Sewerage

YASS VALLEY COUNCIL WATER SUPPLY

ALL AREAS PAY A SHARE

\+ Y=Yass General
YH=Yass - Hamilton Rise
YW=Yass - Wellington St
YB= Yass - Bk Range Rd
YL=Yass - Laidlaw St
Bi=Binalong
Bo=Bowning
M=Murrumbateman

Component		Council Service Area Denotations +	Year Commissioned	Effective year of commissioing for ROI 1	Capital Cost* (2012/13$)	PV of Capital Cost (2012/13$)		Capacity (EPs)	occupancy ratio 2	Capacity (ETs)	Cost per ET ($ per ET)	Year when Capacity is Taken-Up	Take-up Period (Years)	Return on Investment Factor 4,5	Capital Charge per ET (2012/13$)	
Pre 1996 Works																
Dams & Reservoirs																
Clear Water Reservoir 1 - WTP 1.4 ML		Y YH YW YB YL BI BO M	1966	1995/96	$914,890.00	$914,890.00				5,950	$153.76	2025	30	1.49	$0.00	$1,068 Pre 30 year old
Clear Water Reservoir 2 - WTP 1.4 ML		Y YH YW YB YL BI BO M	1966	1995/96	$914,890.00	$914,890.00				5,950	$153.76	2025	30	1.49	$0.00	$1,068 Pre 30 year old
Yass Dam	Walkway	Y YH YW YB YL BI BO M	1987	1995/96	$57,300.00	$57,300.00				5,950	$9.63	2000	5	1.06	$10.00	
Yass Dam	New outlet	Y YH YW YB YL BI BO M	1996	1995/96	$1,887,080.00	$1,887,080.00				5,950	$317.16	2000	5	1.06	$336.00	
Transfer System																
Rising Mains	450 RM Dam-Raw water PS (49)	Y YH YW YB YL BI BO M	1966	1995/96	$115,699.00	$115,699.00				5,950	$19.45	2025	30	1.49	$0.00	$44 Pre 30 year old
Rising Mains	300 RM Raw water PS-WTP (50-5	Y YH YW YB YL BI BO M	1966	1995/96	$316,744.00	$316,744.00				5,950	$53.23	2025	30	1.49	$0.00	$121 Pre 30 year old
Treatment Works & Pumping Stations																
DAF Treatment Plant		Y YH YW YB YL BI BO M	1989	1995/96	$10,115,240.00	$10,115,240.00				5,950	$1,700.04	2000	28	1.45	$2,463.00	
Raw water pump station		Y YH YW YB YL BI BO M	1989	1995/96	$357,170.00	$357,170.00				5,950	$60.03	2015	20	1.31	$78.00	
Post 1996 Works																
Dams & Reservoirs																
Yass Dam	Upgrade - Raise dam level	Y YH YW YB YL BI BO M	2015	2015	$9,000,000.00	$7,346,680.89				5,950	$1,234.74	2015	26	2.05	$2,537.00	
Yass Dam	Catchment improvements	Y YH YW YB YL BI BO M	2013	2013	$25,000.00	$23,364.49				5,950	$3.93	2015	28	2.16	$8.00	
Yass Dam	Land acquisition	Y YH YW YB YL BI BO M	2013	2013	$785,000.00	$733,644.86				5,950	$123.30	2015	28	2.16	$266.00	
Yass Dam	River flow gauging	Y YH YW YB YL BI BO M	2013	2013	$20,000.00	$18,691.59				5,950	$3.14	2015	5	1.14	$4.00	
Yass Dam	Riparian Vegetation works	Y YH YW YB YL BI BO M	2013	2013	$150,000.00	$140,186.92				5,950	$23.56	2015	5	1.14	$27.00	
Yass Dam	Upgrade - Raise dam level	Y YH YW YB YL BI BO M	2014	2014	$2,200,000.00	$1,921,565.20				5,950	$322.95	2015	26	2.05	$664.00	
Yass Dam	Catchment improvements	Y YH YW YB YL BI BO M	2014	2014	$25,000.00	$21,835.97				5,950	$3.67	2015	27	2.11	$8.00	
Yass Dam	River flow gauging	Y YH YW YB YL BI BO M	2014	2014	$60,000.00	$52,406.32				5,950	$8.81	2015	4	1.10	$10.00	
Yass Dam	Riparian Vegetation works	Y YH YW YB YL BI BO M	2014	2014	$250,000.00	$218,359.68				5,950	$36.70	2015	5	1.14	$42.00	
Yass Dam	Upgrade - Raise dam level	Y YH YW YB YL BI BO M	2015	2015	$1,000,000.00	$816,297.88				5,950	$137.19	2040	26	2.05	$282.00	
Yass Dam	Riparian Vegetation works	Y YH YW YB YL BI BO M	2015	2015	$200,000.00	$163,259.58				5,950	$27.44	2019	5	1.14	$31.00	
Yass Dam	Prepare Dambreak Study	Y YH YW YB YL BI BO M	2015	2015	$50,000.00	$40,814.89				5,950	$6.86	2019	5	1.14	$8.00	
Transfer System																
Trunk Main	200 Trunk Main under Yass Ri	Y YH YW YB YL BI BO M	2014	2014	$500,000.00	$436,719.36				5,950	$73.40	2025	12	1.41	$104.00	
Treatment Works & Pumping Stations																
Emergency bore (Yass)		Y YH YW YB YL BI BO M	2004	2004	$490,000.00	$490,000.00				5,950	$82.35	2023	20	1.76	$145.00	
Water softening upgrade		Y YH YW YB YL BI BO M	2007	2007	$1,000,000.00	$1,000,000.00				5,950	$168.07	2023	17	1.63	$273.00	
New raw water supply to WTP		Y YH YW YB YL BI BO M	2008	2008	$14,839,000.00	$14,839,000.00				5,950	$2,493.95	2023	16	1.58	$3,948.00	
Replace raw water pumps		Y YH YW YB YL BI BO M	2008	2008	$100,000.00	$100,000.00				5,950	$16.81	2023	16	1.58	$27.00	
Water Treatment	WTP Improvement	Y YH YW YB YL BI BO M	2013	2013	$60,000.00	$56,074.77				5,950	$9.42	2023	16	1.58	$15.00	
Mount St PS Replace raw water pumps		Y YH YW YB YL BI BO M	2017	2017	$250,000.00	$178,246.54				5,950	$29.96	2034	18	1.67	$50.00	
Miscellaneous																
Management	Prepare IWCMP	Y YH YW YB YL BI BO M	2004	2004	$150,000.00	$150,000.00				5,950	$25.21	2023	20	1.76	$44.00	
Management	Review & upgrade DSP	Y YH YW YB YL BI BO M	2013	2013	$15,000.00	$14,018.69				5,950	$2.36	2018	6	1.18	$3.00	
Management	Review & upgrade SBP	Y YH YW YB YL BI BO M	2013	2013	$50,000.00	$46,728.97				5,950	$7.85	2018	6	1.18	$9.00	
Total					$45,898,013.00	$43,486,909.60					$7,309				$11,392.00	

Rate of return (pre 1996)	3%
Rate of return (post 1996)	7%
Discount Rate	7%
Year Now	2012/13

1. For pre-1996 assets, the effective year of commissioning for calculating Return on Investment (ROI) factors is January 1996, ie: 1995/96.
4. The ROI factor for pre-1996 works is based on a rate of return (discount rate) of 3% pa real. The ROI factor assumes a uniform annual take-up of lots over the take-up period, commencing in the effective year of commissioning of the asset.
5. The ROI factor for post-1996 assets is based on a rate of return (discount rate) of 7% pa real, together with a uniform annual take-up of lots over the take-up period, commencing in the year of commissioning of the asset.

* Current Replacement Costs are based on "NSW Reference Rates for Valuation of Water Supply, Sewerage and Stormwater Assets", Ministry of Energy and Utilities, June 2003", adjusted to Year Now dollars

Developer Charges for Water Supply and Sewerage

YASS VALLEY COUNCIL WATER SUPPLY

YASS EXISTING AND OTHER ZONES < 500 ET

\+ Y=Yass General
YH=Yass - Hamilton Rise
YW=Yass - Wellington St
YB= Yass - Bk Range Rd
YL=Yass - Laidlaw St
Bi=Binalong
Bo=Bowning
M=Murrumbateman

Component		Council Service Area Denotations +	Year Commissioned	Effective year of commissioing for ROI 1	Capital Cost* (2012/13$)	PV of Capital Cost (2012/13$)		Capacity (EPs)	occupancy ratio 2	Capacity (ETs)	Cost per ET ($ per ET)	Year when Capacity is Taken Up	Take-up Period (Years)	Return on Investment Factor 4,5	Capital Charge per ET (2012/13$)	
Pre 1996 Works																
Dams & Reservoirs																
Morton Ave Reservoir 4.5 ML		Y YH YW M	1966	1996	2803670	$2,803,670.00				3,878	$722.97	2025	30	1.49	$0.00	$1,018 Pre 30 yea
Morton High Level Reservoir 1.8 ML		Y YH YW	1986	1986	777370	$777,370.00				3,878	$200.46	2020	25	1.39	$279.00	
Shantella Reservoir 1.13 ML		Y	1966	1996	815570	$815,570.00				3,878	$210.31	2020	30	1.49	$313.00	
O Connelltown Reservoir 1.8 ML		Y	1988	1996	891970	$891,970.00				3,878	$230.01	2020	25	1.39	$321.00	
Bowning Reservoir [0.5 ML]		Bo	1987	1996	323510	$323,510.00				3,878	$83.42	2045	50	1.89	$157.00	
Binalong Reservoir [1.8 ML]		Bi	1915	1996	621070	$621,070.00				3,878	$160.15	2045	50	1.89	$302.00	$3,906 Pre 30 yea
Binalong HL Reservoir [21 kL]		Bi	1992	1996	211060	$211,060.00				3,878	$54.42	2045	50	1.89	$103.00	
Binalong Balance Tank [100 kL]		Bi	1992	1996	129750	$129,750.00				3,878	$33.46	2045	50	1.89	$63.00	
Transfer System																
Rising Mains	300 RM WTP - Morton Av (48)	Y YH YW M	1964	1996	$716,048.00	$716,048.00				3,878	$184.64	2029/30	30	1.49	$0.00	$274 Pre 30 year
Rising Mains	300 RM (698-699)	Y YH YW M	1966	1966	$317,006.00	$317,006.00				3,878	$81.74	2029/30	30	1.49	$121.00	
Rising Mains	250 RM to Morton Ave HL (43)	Y YH YW	1988	1996	$135,975.00	$135,975.00				3,878	$35.06	2015	20	1.31	$46.00	
Rising Mains	250 RM to Shantalla (44-47)	Y	1988	1996	$913,929.60	$913,929.60				3,878	$235.67	2025	30	1.49	$350.00	
Rising Mains	250 RM (Trunk 42)	Y	1988	1996	$151,726.00	$151,726.00				3,878	$39.12	2015	20	1.31	$51.00	
Trunk Mains	200 TM Yass-Bowning Walls Jn Rd (32-33,35)	Bo Bi	1988	1996	$229,563.00	$229,563.00				3,878	$59.20	2015	20	1.31	$77.00	
Trunk Mains	200 TM Yass-Bowning Walls Jn Rd (33)	Bo Bi	1988	1996	$32,385.00	$32,385.00				3,878	$8.35	2015	20	1.31	$11.00	
Trunk Mains	150 TM Yass-Bowning (31)	Bo Bi	1988	1996	$1,329.00	$1,329.00				3,878	$0.34	2015	20	1.31	$0.00	
Rising Mains	150 RM to Bowning Main Sth Rlwy (34,36-37)	Bo Bi	1988	1996	$1,134,185.23	$1,134,185.23				3,878	$292.47	2015	20	1.31	$382.00	
Trunk Mains	150 TM Burley Griffin Way Off Ck Storage (38-39)	Bi	1988	1996	$24,382.00	$24,382.00				3,878	$6.29	2045	50	1.89	$12.00	
Trunk Mains	150 TM Bowning-Binalong (18,24-26)	Bi	1990	1996	$249,042.00	$249,042.00				3,878	$64.22	2045	50	1.89	$121.00	
Trunk Mains	150 TM Binalong LL Res (19-20)	Bi	1990	1996	$13,024.00	$13,024.00				3,878	$3.36	2045	50	1.89	$6.00	
Trunk Mains	100 TM Bowning-Binalong (29)	Bi	1990	1996	$711,518.04	$711,518.04				3,878	$183.48	2045	50	1.89	$346.00	
Trunk Mains	100 TM Hume Hwy Boost Pump Stn (3,22-23)	Bi	1990	1996	$5,124.00	$5,124.00				3,878	$1.32	2045	50	1.89	$2.00	
Trunk Mains	100 TM Hume Hwy (16-17)	Bi	1990	1996	$681,885.00	$681,885.00				3,878	$175.83	2045	50	1.89	$332.00	
Trunk Mains	150 TM Burley Griffin Way Off Ck Storage (5-6)	Bi	1990	1996	$23,661.00	$23,661.00				3,878	$6.10	2045	50	1.89	$12.00	
Trunk Mains	150 TM Hume Hwy (11)	Bi														
Treatment Works & Pumping Stations																
Morton Avenue HL Pump Station		Y YH YW	1987	1996	$169,990.00	$169,990.00				3,878	$43.83	2011	16	1.24	$54.00	
Pumping Stations	Shantella Pump Station	Y	1987	1996	$189,090.00	$189,090.00				3,878	$189.09	2011	16	1.24	$234.00	
Bowning-Binalong Pump Station		Bo Bi	1991	1996	$121,100.00	$121,100.00				3,878	$189.09	2045	50	1.89	$357.00	
Bowning Pump Station		Bo	1987	1996	$114,180.00	$114,180.00				3,878	$189.09	2045	50	1.89	$357.00	
Binalong Off Creek Storage Pump Station		Bi	1993	1996	$70,930.00	$70,930.00				3,878	$189.09	2045	50	1.89	$357.00	
Binalong High Level Reservoir Pump Station		Bi	1993	1996	$64,010.00	$64,010.00				3,878	$189.09	2045	50	1.89	$357.00	
Post 1996 Works																
Dams & Reservoirs																
Transfer System																
Willow Creek Bore No. 1		Y YH YW M	2007	2007	$276,147.00	$276,147.00				3,878	$71.21	2026	20	1.76	$126.00	
Willow Creek Bore No. 2		Y YH YW M	2007	2007	$278,743.00	$278,743.00				3,878	$71.88	2026	20	1.76	$127.00	
Rising Mains	150 RM Willow Ck to Morton Av (63-65)	Y YH YW M	2007	2007	$119,057.12	$119,057.12				3,878	$30.70	2007	1	1.00	$31.00	
Rising Mains	100 RM Willow Ck to Morton Av (66)	Y YH YW M	2007	2007	$115,636.00	$115,636.00				3,878	$29.82	2007	1	1.00	$30.00	
Rising Mains	150 RM Willow Ck to Morton Av Bore 2 (52-55)	Y YH YW M	2007	2007	$40,699.73	$40,699.73				3,878	$10.50	2007	1	1.00	$10.00	
Rising Mains	150 RM Willow Ck to Morton Av Bore 1 (56-58)	Y YH YW M	2007	2007	$19,259.00	$19,259.00				3,878	$4.97	2007	1	1.00	$5.00	
Rising Mains	150 RM Willow Ck to Morton Av -Rayner Pl (59-62)	Y YH YW M	2007	2007	$78,502.90	$78,502.90				3,878	$20.24	2007	1	1.00	$20.00	
Rising Mains	100 RM Quarry Bore to O'Connor St (67)	Y	2008	2008	$85,970.00	$85,970.00				3,878	$22.17	2008	1	1.00	$22.00	
Trunk Mains	200 TM Grand Junction Rd	YW	2016	2016	$90,000.00	$68,660.57				3,878	$17.71	2031	16	1.58	$28.00	
Trunk Mains	Water Main Replacement	Bo Bi	2013	2013	$150,000.00	$140,186.92				3,878	$36.15	2045	33	2.42	$87.00	
Trunk Mains	Water Main Replacement	Bo Bi	2014	2014	$150,000.00	$131,015.81				3,878	$33.78	2045	32	2.36	$80.00	
Trunk Mains	150 TM Hume Hwy (11)	Bi	2006	2006	$36,882.00	$36,882.00				3,878	$9.51	2045	40	2.80	$27.00	
Treatment Works & Pumping Stations																
Old Quarry Bore		Y	2009	2009	$274,415.00	$274,415.00				3,878	$70.76	2028	20	1.76	$125.00	
Old Quarry Bore - fencing		Y	2013	2013	$125,000.00	$116,822.43				3,878	$30.12	2028	16	1.58	$48.00	
Pumping Stations	Upgrade PS Building	Y	2013	2013	$30,000.00	$28,037.38				3,878	$47.67	2032	20	1.76	$84.00	
Pumping Stations	Old Quarry Bore	Y	2009	2009	$274,415.00	$274,415.00				3,878	$784.04	2028	20	1.76	$1,383.00	
Pumping Stations	Old Quarry Bore - fencing	Y	2013	2013	$125,000.00	$116,822.43				3,878	$357.14	2028	16	1.58	$565.00	
Miscellaneous																
Management	Drinking Water Quality	Bo Bi	2013	2013	$100,000.00	$93,457.94				3,878	$24.10	2017	5	1.14	$27.00	
Management	Improve water quality	Bo Bi	2015	2015	$50,000.00	$40,814.89				3,878	$10.52	2019	5	1.14	$12.00	

Component		Council Service Area Denotations +	Year Commissioned	Effective year of commissioing for ROI 1	Capital Cost* (2012/13$)	PV of Capital Cost (2012/13$)		Capacity (EPs)	occupancy ratio 2	Capacity (ETs)	Cost per ET ($ per ET)	Year when Capacity is Taken-Up	Take-up Period (Years)	Return on Investment Factor 4,5	Capital Charge per ET (2012/13$)
Management	Improve water quality	Bo Bi	2016	2016	$25,000.00	$19,072.38				3,878	$4.92	2020	5	1.14	$6.00
Management	Borefield investigation - Illalong	Bi	2013	2013	$20,000.00	$18,691.59				3,878	$4.82	2045	33	2.42	$12.00
Management	Binalong WS - Borefield investigation	Bi	2017	2017	$30,000.00	$21,389.59				3,878	$5.52	2045	29	2.21	$12.00
Total					$15,138,779.62	$15,038,751.55					$5,760				$7,990.00

ALL AREAS CONTRIBUTION **$11,392.00**

TOTAL **$19,382.00**

Rate of return (pre 1996) 3%
Rate of return (post 1996) 7%
Discount Rate 7%
Year Now 2012/13

1. For pre-1996 assets, the effective year of commissioning for calculating Return on Investment (ROI) factors is January 1996, ie: 1995/96.
4. The ROI factor for pre-1996 works is based on a rate of return (discount rate) of 3% pa real. The ROI factor assumes a uniform annual take-up of lots over the take-up period, commencing in the effective year of commissioning of the asset.
5. The ROI factor for post-1996 assets is based on a rate of return (discount rate) of 7% pa real, together with a uniform annual take-up of lots over the take-up period, commencing in the year of commissioning of the asset.
* Current Replacement Costs are based on "NSW Reference Rates for Valuation of Water Supply, Sewerage and Stormwater Assets", Ministry of Energy and Utilities, June 2003", adjusted to Year Now dollars

Developer Charges for Water Supply and Sewerage

YASS VALLEY COUNCIL WATER SUPPLY

HAMILTON RISE SUBDIVISION

\+ Y=Yass General
YH=Yass - Hamilton Rise
YW=Yass - Wellington St
YB= Yass - Bk Range Rd
YL=Yass - Laidlaw St
Bi=Binalong
Bo=Bowning
M=Murrumbateman

Component		Council Service Area Denotations +	Year Commissioned	Effective year of commissioing for ROI 1	Capital Cost* (2012/13$)	PV of Capital Cost (2012/13$)		Capacity (EPs)	occupancy ratio 2	Capacity (ETs)	Cost per ET ($ per ET)	Year when Capacity is Taken-Up	Take-up Period (Years)	Return on Investment Factor 4,5	Capital Charge per ET (2012/13$)
Pre 1996 Works															
Dams & Reservoirs															
Transfer System - Pipe Id															
Post 1996 Works															
Dams & Reservoirs															
Hamilton Rise Reservoir 2 ML		YH	2021	2021	$3,343,680.00	$1,818,740.38				575	$3,163.03	2030	10	1.33	$4,209.00
Transfer System - Pipe Id															
Hamilton Rise Transfer Pump Station		YH	2020	2020	$460,800.00	$268,189.80				575	$466.42	2031	12	1.41	$659.00
Hamilton Rise Suction & RM		YH	2020	2020	$1,440,000.00	$838,093.11				575	$1,457.55	2031	12	1.41	$2,058.00
Treatment Works & Pumping Stations															
Upstream zone contributions															$7,990.00
Total					$5,244,480	$2,925,023					$5,087				$14,916.00

Rate of return (pre 1996) 3%
Rate of return (post 1996) 7%
Discount Rate 7%
Year Now 2012/13

ALL AREAS CONTRIBUTION **$11,392.00**
TOTAL **$26,308.00**

1. For pre-1996 assets, the effective year of commissioning for calculating Return on Investment (ROI) factors is January 1996, ie: 1995/96.
4. The ROI factor for pre-1996 works is based on a rate of return (discount rate) of 3% pa real. The ROI factor assumes a uniform annual take-up of lots over the take-up period, commencing in the effective year of commissioning of the asset.
5. The ROI factor for post-1996 assets is based on a rate of return (discount rate) of 7% pa real, together with a uniform annual take-up of lots over the take-up period, commencing in the year of commissioning of the asset.
* Current Replacement Costs are based on "NSW Reference Rates for Valuation of Water Supply, Sewerage and Stormwater Assets", Ministry of Energy and Utilities, June 2003", adjusted to Year Now dollars

Developer Charges for Water Supply and Sewerage

YASS VALLEY COUNCIL WATER SUPPLY **MURUMBATEMAN**

\+ Y=Yass General
YH=Yass - Hamilton Rise
YW=Yass - Wellington St
YB= Yass - Bk Range Rd
YL=Yass - Laidlaw St
Bi=Binalong
Bo=Bowning
M=Murrumbateman

Component		Council Service Area Denotations +	Year Commissioned	Effective year of commissioing for ROI 1	Capital Cost* (2012/13$)	PV of Capital Cost (2012/13$)		Capacity (EPs)	occupancy ratio 2	Capacity (ETs) 3	Cost per ET ($ per ET)	Year when Capacity is Taken-Up	Take-up Period (Years)	Return on Investment Factor 4,5	Capital Charge per ET (2012/13$)
Pre 1996 Works															
Dams & Reservoirs															
Murrumbatman Tank [0.272 ML]		M	1983	1996	$299,290.00	$299,290.00				1,000	$299.29	2009	14	1.20	$360.00
Murrumbatman HL Tank [0.09 ML]		M	1992	1996	$204,140.00	$204,140.00				1,000	$204.14	2009	14	1.20	$246.00
Transfer System															
Rising Mains	150 RM Hercules St (1,12-14,1	M	1984	1996	$71,212.69	$71,212.69				1,000	$71.21	2010	15	1.22	$87.00
Treatment Works & Pumping Stations															
Murrumbateman Bore 1 Pump Station		M	1983	1996	$51,900.00	$51,900.00				1,000	$51.90	2009	14	1.20	$62.00
Murrumbateman High Level Pump Station		M	1992	1996	$38,060.00	$38,060.00				1,000	$38.06	2009	14	1.20	$46.00
Post 1996 Works															
Dams & Reservoirs															
Murrumbatman Reservoir 2 ML		M	2019	2019	$3,745,000.00	$2,332,197.78				1,000	$2,332.20	2045	27	2.31	$5,387.00
Transfer System															
Trunk Main	250 TM HL Reservoir-West St		2015	2015	$265,000.00	$216,318.94				1,000	$216.32	2045	31	2.31	$500.00
Rising Mains	200 RM MALL-Murrumbateman		2018	2018	$6,560,000.00	$4,371,204.99				1,000	$4,371.20	2045	28	2.31	$10,097.00
Treatment Works & Pumping Stations															
Murrumbateman Bore 2 Pump Station			2008	2008	$184,780.00	$184,780.00				1,000	$184.78	2009	2	1.03	$0.00
Murrumbateman Transfer Pump Station			2016	2016	$605,000.00	$605,000.00				1,000	$605.00	2045	30	2.26	$1,367.00
Miscellaneous															
Management	Yass-Murrumbatement WS Finalise Concept Plan		2013	2013	$150,000.00	$140,186.92				1,000	$140.19	2045	33	2.42	$339.00
Management	Detailed design Murrumbatement WS		2014	2014	$300,000.00	$262,031.62				1,000	$262.03	2045	32	2.36	$620.00
Total					$12,474,383	$8,776,323					$8,776				$19,111.00

Rate of return (pre 1996)	3%	ALL AREAS CONTRIBUTION	**$11,392.00**
Rate of return (post 1996)	7%		
Discount Rate	7%	TOTAL	**$30,503.00**
Year Now	2012/13		

1. For pre-1996 assets, the effective year of commissioning for calculating Return on Investment (ROI) factors is January 1996, ie: 1995/96.
4. The ROI factor for pre-1996 works is based on a rate of return (discount rate) of 3% pa real. The ROI factor assumes a uniform annual take-up of lots over the take-up period, commencing in the effective year of commissioning of the asset.
5. The ROI factor for post-1996 assets is based on a rate of return (discount rate) of 7% pa real, together with a uniform annual take-up of lots over the take-up period, commencing in the year of commissioning of the asset.
* Current Replacement Costs are based on "NSW Reference Rates for Valuation of Water Supply, Sewerage and Stormwater Assets", Ministry of Energy and Utilities, June 2003", adjusted to Year Now dollars

Capital Charge Summary	COMPONENT		$/ET
Location	ALL AREAS	LOCAL	
YASS EXIST & OTHER < 500 ET	11392	$7,990	**19,382**
HAMILTON	11392	$14,916	**26,308**
MURUMBATEMAN	11392	$19,111	**30,503**

Weighted Capital Charge (based on design ET)				$/ET
Location			Dev. Charge ET	Cap Charge
YASS EXIST & OTHER < 500 ET			499	19,382
HAMILTON			575	26,308
MURUMBATEMAN			745	30,503
		Weighted Capital Charge		26,126

Summary

Location		Capital Charge / ET	Reduction / ET	Developer Charge / ET ($12/13)
Yass Existing and Other < 500 ET		$19,382	$7,183	$12,199
Hamilton		$26,308	$7,183	$19,125
Murrumbateman		$30,503	$7,183	$23,320
	Weighted Average	$26,126	$7,183	$18,943

Conversion of Assessments to ET's

Assessments			factor	ET's	ET/ Residential Assessment
Residential Assessments comprised of:		**3,611**		**3,417**	**0.95**
	Houses (non-pensioner)	2,861	1	2,861	
	Houses (pensioner)	490	0.87	426	
	Flats/Units/Town Houses (non-pensioner)	0	0.67	0	
	Flats/Units/Town Houses (pensioner)	0	0.55	0	
	Vacant Lots	260	0.5	130	
Non-Residential assessments		328			

Annual Revenue from Rates and Charges			ET's	ET/ Non-Residential Assessment
11/12	Residential Revenue	$2,694	**0**	**1.75**
11/12	Non-Residential Revenue	$0		
11/12	Pensioner Rebate Grant	$24		
11/12	Total Revenue	$3,537		

This revenue does not include revenue from Developer Charges

Table X - Calculation of Developer Charges using the NPV of Annual Charges Method **Yass Valley Council - Water Supply**

Based on Input Reduction Amounts of #### /ET (1st iteration)

Year																					
Year No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Year		12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32
Developer Charges																					
Year 1		12	/13																		
Base Year		2012	/13																		
Average Capital Charges per ET	(2012/13$)	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028
Inflation from 2012/13 to 12/13 (%)		0.00%																			
Capital Charges	(12/13$)	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030
Input Reduction Amounts	**(12/13$)**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**
Developer Charge per ET	(12/13$)																				
Developer Charges per assessment - Residential	(2012/13$)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Developer Charges per assessment - Non-Residential	(2012/13$)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Assessments & ETs																					
	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32
Residential Assessments at year end	2,873	3,121	3,196	3,273	3,352	3,432	3,514	3,598	3,684	3,772	3,863	3,956	4,051	4,148	4,248	4,350	4,454	4,561	4,670	4,782	4,897
Non Residential Assessments at year end	327	328	331	334	337	340	343	346	349	352	356	360	364	368	372	376	380	384	388	392	396
Backlog Assessments at year end	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Assessments at year end	3,200	3,449	3,527	3,607	3,689	3,772	3,857	3,944	4,033	4,124	4,219	4,316	4,415	4,516	4,620	4,726	4,834	4,945	5,058	5,174	5,293
ET per Residential Assessment	0.95																				
ET per Non Residential Assessment	1.75																				
Total ETs	3,302	3,539	3,615	3,694	3,774	3,855	3,939	4,024	4,111	4,199	4,293	4,388	4,485	4,585	4,687	4,791	4,896	5,005	5,116	5,229	5,345
New ETs per year (excluding backlog)	-	237	77	78	80	81	83	85	87	89	93	95	97	99	102	104	106	109	111	113	116
Cumulative New ETs (excluding backlog)	-	237	314	392	473	554	637	722	809	898	991	1,087	1,184	1,283	1,385	1,489	1,595	1,703	1,814	1,927	2,044
PV (new ETs excluding backlog) 30 years @ 7% pa	-	**1,400**	**1,261**	**1,284**	**1,306**	**1,328**	**1,350**	**1,372**	**1,393**	**1,414**	**1,434**	**1,451**	**1,467**	**1,482**	**1,496**	**1,508**	**1,519**	**1,528**	**1,535**	**1,541**	**1,544**
Revenue and Expenditure																					
Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant																					
Revenue ($'000)	(2012/13$)	3,594	3,679	3,773	3,861	3,957	4,053	4,148	4,249	4,352	4,459	4,565	4,676	4,791	4,905	5,025	5,146	5,270	5,398	5,527	5,661
OMA Expenditure ($'000)	(2012/13$)	2,344	2,299	2,256	2,210	2,168	2,125	2,145	2,229	2,256	2,248	2,351	2,342	2,333	2,324	2,316	2,308	2,303	2,298	2,293	2,290
Revenue less OMA Expenditure ($'000)		1,250	1,380	1,517	1,651	1,789	1,928	2,003	2,020	2,096	2,211	2,214	2,334	2,458	2,581	2,709	2,838	2,967	3,100	3,234	3,371
Revenue less OMA Expenditure for new ETs ($'000)		84	120	161	207	257	312	359	398	448	511	548	616	688	763	842	924	1,010	1,099	1,192	1,289
PV (Revenue less OMA Expenditure for new ETs) 30 years @ 7% pa ($'000)		**9,003**	**8,827**	**9,328**	**9,797**	**10,244**	**10,663**	**11,053**	**11,580**	**12,288**	**12,875**	**13,339**	**14,196**	**14,690**	**15,165**	**15,633**	**16,075**	**16,505**	**16,924**	**17,316**	**17,690**
Output (calculated) Reduction Amounts		**6,429**	**7,001**	**7,267**	**7,502**	**7,715**	**7,898**	**8,057**	**8,311**	**8,689**	**8,976**	**9,192**	**9,677**	**9,912**	**10,137**	**10,367**	**10,585**	**10,801**	**11,024**	**11,239**	**11,461**
Output with first 5 years averaged		**7,183**	**7,183**	**7,183**	**7,183**	**7,183**	**7,898**	**8,057**	**8,311**	**8,689**	**8,976**	**9,192**	**9,677**	**9,912**	**10,137**	**10,367**	**10,585**	**10,801**	**11,024**	**11,239**	**11,461**
% Difference Between the Input and Output		**78%**																			

Difference Greater Than 2%, Go to Next Iteration

General Notes:

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

2.

Specific Notes:

Assume zero growth after 20 years

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	44/45	45/46	46/47	47/48	48/49	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	57/58	58/59	59/60	60/61	61/62
29,028	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**
29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028
4,030	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**	**4,030**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	44/45	45/46	46/47	47/48	48/49	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	57/58	58/59	59/60	60/61	61/62
5,015	**5,135**	**5,258**	**5,384**	**5,513**	**5,645**	**5,780**	**5,919**	**6,061**	**6,206**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**
400	**404**	**408**	**412**	**416**	**420**	**424**	**428**	**432**	**436**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**
-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
5,415	**5,539**	**5,666**	**5,796**	**5,929**	**6,065**	**6,204**	**6,347**	**6,493**	**6,642**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**
5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345
116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
2,160	2,276	2,392	2,509	2,625	2,741	2,857	2,974	3,090	3,206	3,322	3,439	3,555	3,671	3,787	3,904	4,020	4,136	4,252	4,369	4,485	4,601	4,717	4,834	4,950	5,066	5,182	5,299	5,415	5,531
1,544	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**																			

5,800	**5,937**	**6,079**	**6,227**	**6,376**	**6,530**	**6,688**	**6,848**	**7,011**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**
2,297	**2,327**	**2,359**	**2,393**	**2,424**	**2,458**	**2,494**	**2,537**	**2,585**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**
3,503	3,610	3,720	3,834	3,952	4,072	4,194	4,311	4,426	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544
1,415	1,537	1,665	1,799	1,941	2,088	2,242	2,398	2,558	2,726	2,824	2,923	3,022	3,121	3,220	3,318	3,417	3,516	3,615	3,714	3,813	3,911	4,010	4,109	4,208	4,307	4,406	4,504	4,603	4,702
18,033	**17,972**	**17,973**	**17,884**	**17,690**	**17,378**	**16,950**	**16,395**	**15,757**	**15,010**	**14,104**																			
11,683	**11,643**	**11,644**	**11,587**	**11,461**	**11,259**	**10,981**	**10,622**	**10,208**	**9,724**	**9,138**																			
11,683	**11,643**	**11,644**	**11,587**	**11,461**	**11,259**	**10,981**	**10,622**	**10,208**	**9,724**	**9,138**																			

Table X - Calculation of Developer Charges using the NPV of Annual Charges Method **Yass Valley Council - Water Supply**

Based on Input Reduction Amounts of #### /ET (2nd iteration)

Year																					
Year No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Year		12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32
Developer Charges																					
Year 1		12 /13																			
Base Year		2012 /13																			
Average Capital Charges per ET	(2012/13$)	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028
Inflation from 2012/13 to 12/13 (%)		0.00%																			
Capital Charge	(12/13$)	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030
Input Reduction Amounts	**(12/13$)**	**7,183**	**7,183**	**7,183**	**7,183**	**7,183**	**7,898**	**8,057**	**8,311**	**8,689**	**8,976**	**9,192**	**9,677**	**9,912**	**10,137**	**10,367**	**10,585**	**10,801**	**11,024**	**11,239**	**11,461**
Developer Charge per ET	(12/13$)	21,850	21,850	21,850	21,850	21,850	21,130	20,970	20,720	20,340	20,050	19,840	19,350	19,120	18,890	18,660	18,450	18,230	18,010	17,790	17,570
Developer Charges per assessment - Residential	(2012/13$)	20,760	20,760	20,760	20,760	20,760	20,070	19,920	19,680	19,320	19,050	18,850	18,380	18,160	17,950	17,730	17,530	17,320	17,110	16,900	16,690
Developer Charges per assessment - Non-Residential	(2012/13$)	36,330	36,330	36,330	36,330	36,330	35,123	34,860	34,440	33,810	33,338	32,988	32,165	31,780	31,413	31,028	30,678	30,310	29,943	29,575	29,208
Assessments & ETs																					
	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32
Residential Assessments at year end	**2,873**	**3,121**	**3,196**	**3,273**	**3,352**	**3,432**	**3,514**	**3,598**	**3,684**	**3,772**	**3,863**	**3,956**	**4,051**	**4,148**	**4,248**	**4,350**	**4,454**	**4,561**	**4,670**	**4,782**	**4,897**
Non Residential Assessments at year end	**327**	**328**	**331**	**334**	**337**	**340**	**343**	**346**	**349**	**352**	**356**	**360**	**364**	**368**	**372**	**376**	**380**	**384**	**388**	**392**	**396**
Backlog Assessments at year end	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total Assessments at year end	**3,200**	**3,449**	**3,527**	**3,607**	**3,689**	**3,772**	**3,857**	**3,944**	**4,033**	**4,124**	**4,219**	**4,316**	**4,415**	**4,516**	**4,620**	**4,726**	**4,834**	**4,945**	**5,058**	**5,174**	**5,293**
ET per Residential Assessment	**0.95**																				
ET per Non Residential Assessment	**1.75**																				
Total ETs	3,302	3,539	3,615	3,694	3,774	3,855	3,939	4,024	4,111	4,199	4,293	4,388	4,485	4,585	4,687	4,791	4,896	5,005	5,116	5,229	5,345
New ETs per year (excluding backlog)	-	237	77	78	80	81	83	85	87	89	93	95	97	99	102	104	106	109	111	113	116
Cumulative New ETs (excluding backlog)	-	237	314	392	473	554	637	722	809	898	991	1,087	1,184	1,283	1,385	1,489	1,595	1,703	1,814	1,927	2,044
PV (new ETs excluding backlog) 30 years @ 7% pa	-	**1,400**	**1,261**	**1,284**	**1,306**	**1,328**	**1,350**	**1,372**	**1,393**	**1,414**	**1,434**	**1,451**	**1,467**	**1,482**	**1,496**	**1,508**	**1,519**	**1,528**	**1,535**	**1,541**	**1,544**
Revenue and Expenditure																					
Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant																					
Revenue ($'000)	(2012/13$)	**3,594**	**3,679**	**3,773**	**3,861**	**3,957**	**4,053**	**4,148**	**4,249**	**4,352**	**4,459**	**4,565**	**4,676**	**4,791**	**4,905**	**5,025**	**5,146**	**5,270**	**5,398**	**5,527**	**5,661**
OMA Expenditure ($'000)	(2012/13$)	**2,344**	**2,299**	**2,256**	**2,210**	**2,168**	**2,125**	**2,145**	**2,229**	**2,256**	**2,248**	**2,351**	**2,342**	**2,333**	**2,324**	**2,316**	**2,308**	**2,303**	**2,298**	**2,293**	**2,290**
Revenue less OMA Expenditure ($'000)		1,250	1,380	1,517	1,651	1,789	1,928	2,003	2,020	2,096	2,211	2,214	2,334	2,458	2,581	2,709	2,838	2,967	3,100	3,234	3,371
Revenue less OMA Expenditure for new ETs ($'000)		84	120	161	207	257	312	359	398	448	511	548	616	688	763	842	924	1,010	1,099	1,192	1,289
PV (Revenue less OMA Expenditure for new ETs) 30 years @ 7% pa ($'000)		**9,003**	**8,827**	**9,328**	**9,797**	**10,244**	**10,663**	**11,053**	**11,580**	**12,288**	**12,875**	**13,339**	**14,196**	**14,690**	**15,165**	**15,633**	**16,075**	**16,505**	**16,924**	**17,316**	**17,690**
Output (calculated) Reduction Amounts		**6,429**	**7,001**	**7,267**	**7,502**	**7,715**	**7,898**	**8,057**	**8,311**	**8,689**	**8,976**	**9,192**	**9,677**	**9,912**	**10,137**	**10,367**	**10,585**	**10,801**	**11,024**	**11,239**	**11461**
Average Calculated Reduction for a 5 yr Period		**7,183**	**7,183**	**7,183**	**7,183**	**7,183**	**7,898**	**8,057**	**8,311**	**8,689**	**8,976**	**9,192**	**9,677**	**9,912**	**10,137**	**10,367**	**10,585**	**10,801**	**11,024**	**11,239**	**11461**
% Difference Between the Input and Output		**0%**																			

Difference Less Than 2%, Calculation Complete

General Notes:

Developer Charges for the first 5 years = $21850 in year 12/13 dollars

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

Developer Cha	21,847	21,847	21,847	21,847	21,847	21,132	20,973	20,719	20,341	20,054	19,838	19,353	19,118	18,893	18,663	18,445	18,229	18,006	17,791	17,569

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	44/45	45/46	46/47	47/48	48/49	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	57/58	58/59	59/60	60/61	61/62
29,028	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**	**29,028**
29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028	29,028
11,683	**11,643**	**11,644**	**11,587**	**11,461**	**11,259**	**10,981**	**10,622**	**10,208**	**9,724**	**9,138**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
17,350	17,390	17,390	17,440	17,570	17,770	18,050	18,410	18,820	19,300	19,890	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030	29,030
16,480	16,520	16,520	16,570	16,690	16,880	17,150	17,490	17,880	18,340	18,900	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580	27,580
28,840	28,910	28,910	28,998	29,208	29,540	30,013	30,608	31,290	32,095	33,075	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265	48,265

32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	44/45	45/46	46/47	47/48	48/49	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	57/58	58/59	59/60	60/61	61/62
5,015	**5,135**	**5,258**	**5,384**	**5,513**	**5,645**	**5,780**	**5,919**	**6,061**	**6,206**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**	**6,355**
400	**404**	**408**	**412**	**416**	**420**	**424**	**428**	**432**	**436**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**	**440**
-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
5,415	**5,539**	**5,666**	**5,796**	**5,929**	**6,065**	**6,204**	**6,347**	**6,493**	**6,642**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**	**6,795**
5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345	5,345
116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
2,160	2,276	2,392	2,509	2,625	2,741	2,857	2,974	3,090	3,206	3,322	3,439	3,555	3,671	3,787	3,904	4,020	4,136	4,252	4,369	4,485	4,601	4,717	4,834	4,950	5,066	5,182	5,299	5,415	5,531
1,544	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**	**1,544**																			

5,800	**5,937**	**6,079**	**6,227**	**6,376**	**6,530**	**6,688**	**6,848**	**7,011**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**	**7,182**
2,297	**2,327**	**2,359**	**2,393**	**2,424**	**2,458**	**2,494**	**2,537**	**2,585**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**	**2,638**
3,503	3,610	3,720	3,834	3,952	4,072	4,194	4,311	4,426	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544
1,415	1,537	1,665	1,799	1,941	2,088	2,242	2,398	2,558	2,726	2,824	2,923	3,022	3,121	3,220	3,318	3,417	3,516	3,615	3,714	3,813	3,911	4,010	4,109	4,208	4,307	4,406	4,504	4,603	4,702
18,033	**17,972**	**17,973**	**17,884**	**17,690**	**17,378**	**16,950**	**16,395**	**15,757**	**15,010**	**14,104**																			
11,683	**11,643**	**11,644**	**11,587**	**11,461**	**11,259**	**10,981**	**10,622**	**10,208**	**9,724**	**9,138**																			
11,683	**11,643**	**11,644**	**11,587**	**11,461**	**11,259**	**10,981**	**10,622**	**10,208**	**9,724**	**9,138**																			

ESTIMATED TAKE-UP OF NEW SUBDIVISION LAND (Starting point based on water connections)

Yass & Bowning EP/ET= 2.6
Binalong EP/ET= 2.4
Murrumbateman EP/ET= 2.7
Commercial EP/ET= 2.7

R-ET Residential equivalent tenements
C-ET Commercial equivalent tenements
(Average Commercial consumer = 1.75 ET)
∑ ET Residential plus Commercial equivalent tenements

575 ET 200 ET 230 ET +1418 ET ≈ 600 ET +880 ET

Year	Yass Population	Yass	Hamilton Rise	Wellington Rd	Laidlaw St	Yass Residual	Black Range Rd	Yass ET	C·	Bowning Population	Binalong Population	Bo + Bi ET	R·	Bo + Bi ET	C·	Yass + Bowning + Binalong			Murrumbateman					Yass +Bo +Bi +Murr	
	2.50%	R-ET	new ET	new ET	new ET	new ET	new ET	1.00%		2.00%	1.80%	R-ET		1.00%		Population	EP	∑ ET	Population	R-ET	C-ET	∑ ET	EP	EP	
1996	**4,451**	**1,712**						**386**		**234**	**331**	**228**		**72**		**5,016**	**6,253**	**2,398**	**255**	**85**	**17**	**102**	**301**	**6,554**	
2010	**5,699**	**2,192**						**490**		**260**	**396**	**265**		**72**		**6,355**	**7,872**	**3,019**	**312**	**104**	**17**	**121**	**358**	**8,230**	
2011	**5,824**	**2,240**				48		490		**260**	**403**	**268**		72		**6,487**	**8,005**	**3,070**	**315**	**105**	17	122	361	**8,365**	
2012	5,970	2,296				56		490		265	410	273		72		**6,645**	**8,163**	**3,131**	**317**	106	17	123	363	**8,526**	
2013	6,119	2,353	30	10		17		495		271	418	278		73		**6,807**	**8,340**	**3,199**	**336**	113	17	130	382	**8,722**	
2014	6,272	2,412	25	10		24		500		276	425	283		73		**6,973**	**8,521**	**3,268**	**377**	128	17	145	423	**8,944**	
2015	6,429	2,473	25	10	10	15		505		281	433	288		74		**7,143**	**8,706**	**3,339**	**436**	150	17	167	482	**9,189**	
2016	6,589	2,534	25	10	10	17		510		287	441	293		75		**7,317**	**8,896**	**3,412**	**496**	172	17	189	542	**9,438**	Sewer Murrum
2017	6,754	2,598	30	10	10	13		515		293	449	298		76		**7,496**	**9,090**	**3,487**	**558**	195	17	212	604	**9,694**	
2018	6,923	2,663	30	10	10	15		520		299	457	303		76		**7,678**	**9,289**	**3,563**	**623**	219	17	236	668	**9,958**	
2019	7,096	2,729	30	10	10	17		525		305	465	309		77		**7,866**	**9,493**	**3,641**	**690**	244	17	261	736	**10,228**	
2020	7,273	2,797	30	10	10	18		531		311	473	315		78		**8,058**	**9,701**	**3,721**	**763**	271	18	289	812	**10,512**	New Water Murrum
2021	7,455	2,867	30	10	10	20		536		317	482	320		79		**8,254**	**9,914**	**3,802**	**841**	300	19	319	893	**10,806**	
2022	7,642	2,939	30	10	10	22		541		323	491	326		80		**8,455**	**10,132**	**3,886**	**925**	331	20	351	979	**11,111**	
2023	7,833	3,013	30	10	10	23		547		330	499	332		80		**8,662**	**10,355**	**3,971**	**1,011**	363	28	391	1,087	**11,442**	
2024	8,028	3,088	30	10	15	20		552		336	508	338		81		**8,873**	**10,583**	**4,059**	**1,100**	396	28	424	1,176	**11,759**	
2025	8,229	3,165	30	10	15	22		558		343	518	344		82		**9,090**	**10,817**	**4,149**	**1,192**	430	29	459	1,271	**12,087**	
2026	8,435	3,244	30	10	15	24		563		350	527	350		83		**9,312**	**11,056**	**4,240**	**1,289**	466	34	500	1,381	**12,437**	
2027	8,646	3,325	30	10	15	26		569		357	536	357		84		**9,539**	**11,301**	**4,334**	**1,395**	505	34	539	1,487	**12,787**	
2028	8,862	3,408	30	10	15	28		575		364	546	363		84		**9,772**	**11,551**	**4,430**	**1,508**	547	35	582	1,603	**13,154**	
2029	9,083	3,494	30	10	15	30		580		371	556	370		85		**10,011**	**11,808**	**4,529**	**1,627**	591	35	626	1,721	**13,529**	
2030	9,311	3,581	20	10	15	42		586		379	566	376		86		**10,255**	**12,070**	**4,629**	**1,754**	638	40	678	1,862	**13,932**	
2031	9,543	3,671	20	10	15	45		592		386	576	383		87		**10,506**	**12,339**	**4,733**	**1,902**	693	40	733	2,010	**14,349**	
2032	9,782	3,762	20	10	15	47		598		394	586	390		88		**10,762**	**12,614**	**4,838**	**2,081**	759	41	800	2,191	**14,805**	
2033	10,026	3,856	20			74		604		402	597	397		89		**11,025**	**12,895**	**4,946**	**2,283**	834	41	875	2,394	**15,289**	
2034	10,277	3,953				96		610		410	608	404		90		**11,295**	**13,184**	**5,057**	**2,488**	910	41	951	2,599	**15,782**	DAM @ capacity
2035	10,534	4,052				99		616		418	619	412		91		**11,571**	**13,479**	**5,170**	**2,623**	960	41	1001	2,734	**16,212**	Murrum @ capacity
2036	10,797	4,153				101		622		427	630	419		91		**11,854**	**13,780**	**5,286**	**2,758**	1010	43	1053	2,874	**16,655**	
2037	11,067	4,257				104		628		435	641	427		92		**12,144**	**14,090**	**5,404**	**2,893**	1060	43	1103	3,009	**17,099**	
2038	11,344	4,363				106		635		444	653	435		93		**12,440**	**14,406**	**5,526**	**3,028**	1110	43	1153	3,144	**17,550**	
2039	11,628	4,472				109		641		453	664	443		94		**12,745**	**14,730**	**5,650**	**3,163**	1160	43	1203	3,279	**18,009**	
2040	11,918	4,584				112		647		462	676	451		95		**13,056**	**15,061**	**5,777**	**3,298**	1210	43	1253	3,414	**18,476**	
2041	12,216	4,699				115		654		471	689	459		96		**13,376**	**15,401**	**5,907**	**3,433**	1260	45	1305	3,555	**18,955**	Yass @ capacity
2042	12,522	4,816				117		660		480	701	467		97		**13,703**	**15,748**	**6,041**	**3,568**	1310	45	1355	3,690	**19,438**	
2043	12,835	4,936				120		667		490	714	476		98		**14,038**	**16,104**	**6,177**	**3,703**	1360	45	1405	3,825	**19,929**	
2044	13,156	5,060				123		674		500	726	485		99		**14,382**	**16,468**	**6,317**	**3,838**	1410	45	1455	3,960	**20,428**	
2045	13,484	5,186				126		680		510	740	493		100		**14,734**	**16,841**	**6,460**	**3,973**	1460	45	1505	4,095	**20,936**	
			575	**200**	**225**	**1,994**	**0**									**Yass + Bowning + Binalong**		**2.6**	**EP/ET**	**Murrumbateman**		**2.7**	**EP/ET**