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	\$12,199
Binalong	
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 <u>equivalent</u> 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

^{*&}quot;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 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

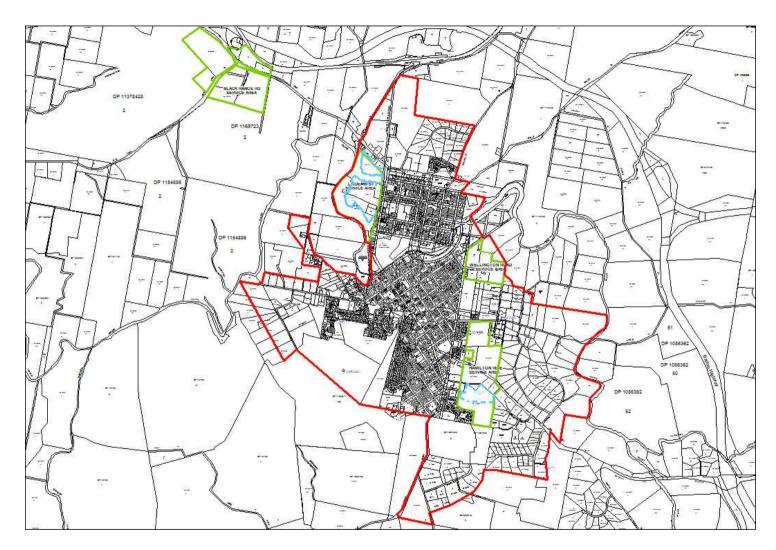
At the time of preparation of this DSP, there were no State Environmental Planning Policies applicable to the Yass Valley Council water supply. Should policies become applicable during the life of this DSP, these should be listed in this Appendix.

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

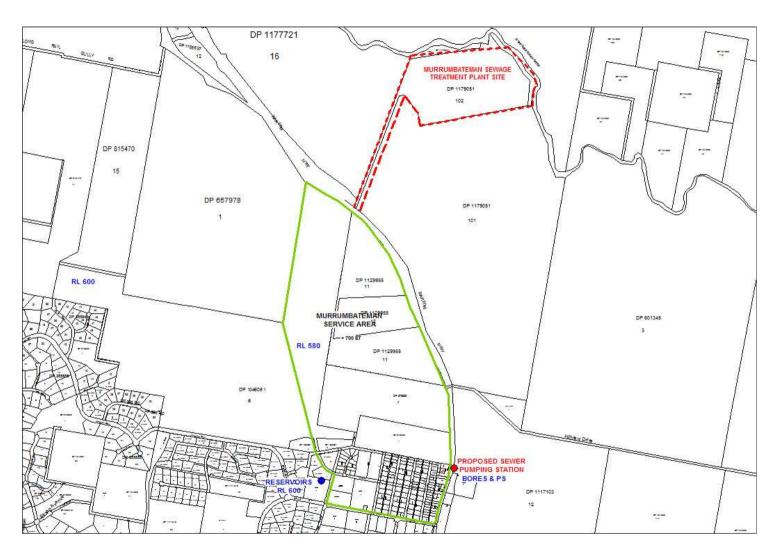
Yass Section 64 Sewerage Plan

Yass Section 94 Plan

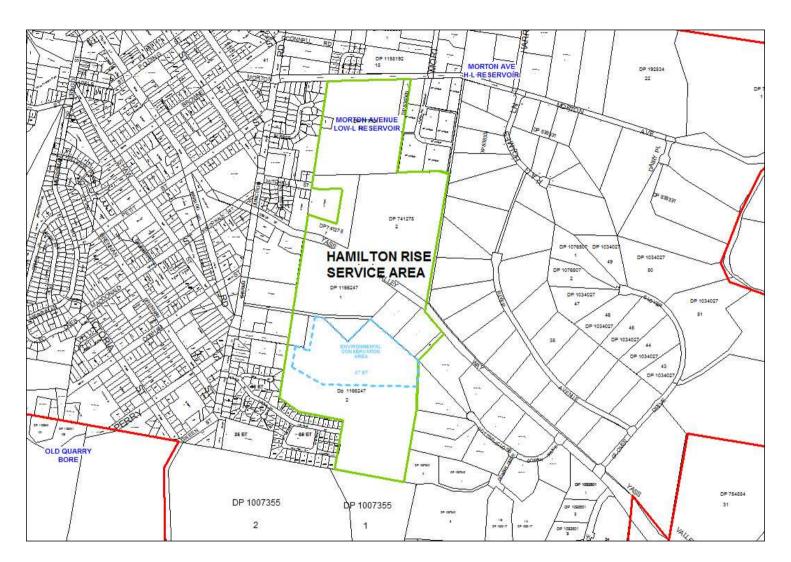




Yass Service Area



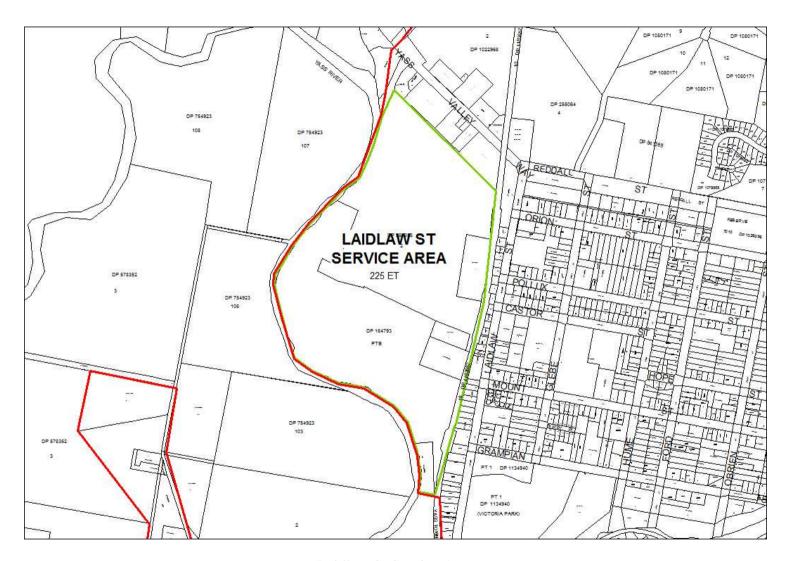
Murrumbateman Service Area



Hamilton Rise Service Area



Black Range Road Service Area



Laidlaw St Service Area



Wellington Road Service Area

APPENDIX No. 4 - Calculations

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=Murrumbatemar

		1	1	TB= Tass - BK Ran	gertu	ivi=iviurrumbateman						1	1	_	1
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		\$1,068 Pre 3
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 3
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	
Fransfer 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 ye
Rising Mains	300 RM Raw water PS-WTP (50-5		1966	1995/96	\$316,744.00	\$316,744.00			5,950	\$53.23	2025	30	1.49	\$0.00	\$121 Pre 30
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	1		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		26	2.05	\$2,537.00	
'ass 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	
ass 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	
ass 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	
'ass 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	
'ass 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		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	
<u> Γransfer System</u>															
Γrunk 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	
reatment Works & Pumping Stations			0004	000.4	*****	# 400,000,00			5.050	400.05			4.70	2445.00	
imergency bore (Yass)		Y YH YW YB YL BI BO M	2004 2007	2004	\$490,000.00	\$490,000.00			5,950	\$82.35	2023	20	1.76	\$145.00	
Vater softening upgrade		Y YH YW YB YL BI BO M		2007 2008	\$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	2008	\$14,839,000.00	\$14,839,000.00 \$100,000.00	1		5,950	\$2,493.95	2023	16	1.58	\$3,948.00	
Replace raw water pumps	WTD Image	Y YH YW YB YL BI BO M	2008	2008	\$100,000.00	\$100,000.00 \$56,074.77	1		5,950	\$16.81	2023	16	1.58	\$27.00	
Water Treatment Mount St PS Replace raw water pumps		Y YH YW YB YL BI BO M Y YH YW YB YL BI BO M	2013	2013	\$60,000.00 \$250,000.00	\$56,074.77 \$178,246.54			5,950 5,950	\$9.42 \$29.96	2023 2034	16 18	1.58 1.67	\$15.00 \$50.00	
<u> Miscellaneous</u>															
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		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	
Fotal					\$45,898,013.00	\$43,486,909.60				\$7,309				\$11,392.00	

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

Yass_W_DC_a_data direct_max zone ET_d.xls ALL AREAS 5:43 PM 7/03/2013 Page 1 of 7

^{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

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 t Bo=Bowning M=Murrumbateman

	YB= Yass - Bk Range Rd M=Murrumbateman Fforting upon of the Control of the Contr													
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\$)
re 1996 Works	 	<u> </u>	 	+			+	<u> </u>	 		+		 	+
10 1330 WOINS														
Dams & Reservoirs														
Morton Ave Reservoir 4.5 ML		V VII VW M	1066	1006	2002670	\$2,803,670.00			2 070	\$722.0°	2025	30	1.40	60.00
Morton High Level Reservoir 1.8 ML	+	Y YH YW M Y YH YW	1966 1986	1996 1986	2803670 777370	\$777,370.00			3,878 3.878	\$722.97 \$200.46	2025	30 25	1.49 1.39	\$0.00 \$1 \$279.00
Shantella Reservoir 1.13 ML		Y	1966	1996	815570	\$815,570.00			3,878	\$210.31	2020	30	1.49	\$313.00
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]		Во	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
Binalong HL Reservoir [21 kL]	 	Bi	1992	1996	211060	\$211,060.00			3,878	\$54.42		50	1.89	\$103.00
sinalong Balance Tank [100 kL]	 	Ві	1992	1996	129750	\$129,750.00			3,878	\$33.46	2045	50	1.89	\$63.00
ransfer System	+	+	+	+					-				 	+
tising 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 \$2
ising Mains	300 RM (698-699)	Y YH YW M	1966	1966	\$317,006.00	\$317,006.00			3,878	\$81.74		30	1.49	\$121.00
ising 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 \$350.00
ising 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
ising Mains	250 RM (Trunk 42)	Y	1988	1996	\$151,726.00	\$151,726.00			3,878	\$39.12	2015	20	1.31	\$51.00
runk 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
runk Mains	200 TM Yass-Bowning Walls Jn Rd (33)	Bo Bi	1988	1996	\$32,385.00	\$32,385.00			3,878	\$8.35		20	1.31	\$11.00
runk Mains	150 TM Yass-Bowning (31)	Bo Bi	1988	1996	\$1,329.00	\$1,329.00			3,878	\$0.34		20	1.31	\$0.00
ising 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
runk Mains	150 TM Burley Griffin Way Off Ck Storage (38-39)	Bi D:	1988	1996	\$24,382.00	\$24,382.00 \$249,042.00		+	3,878 3.878	\$6.29		50	1.89	\$12.00 \$121.00
runk Mains runk Mains	150 TM Bowning-Binalong (18,24-26)	BI D;	1990 1990	1996 1996	\$249,042.00 \$13,024.00	\$249,042.00 \$13,024.00		 	3,878 3,878	\$64.22 \$3.36	2045	50 50	1.89 1.89	\$121.00 \$6.00
runk Mains runk Mains	150 TM Binalong LL Res (19-20) 100 TM Bowning-Binalong (29)	Ri	1990	1996	\$13,024.00 \$711,518.04	\$13,024.00 \$711,518.04		1	3,878	\$3.36 \$183.48		50 50	1.89	\$6.00 \$346.00
Trunk Mains	100 TM Howling-Binaiong (29) 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
Frunk 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
runk Mains	150 TM Burley Griffin Way Off Ck Storage (5-6)	Bi	1990	1996	\$23,661.00	\$23,661.00	İ		3,878	\$6.10		50	1.89	\$12.00
runk Mains	150 TM Hume Hwy (11)	Bi	1		,				1	-				7
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reatment Works & Pumping Stations	+		+	+						 			 	+
reautient works & rumping 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
rumping 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		Во	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
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Post 1996 Works									<u> </u>	 				
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Dams & Reservoirs										 				
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Fransfer System							İ							
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Willow Creek Bore No. 1									1				1	
		Y YH YW M	2007	2007	\$276,147.00	\$276,147.00			3,878	\$71.21	2026	20	1.76	\$126.00
Villow Creek Bore No. 2		Y YH YW M Y YH YW M	2007	2007	\$278,743.00	\$278,743.00			3,878	\$71.21 \$71.88	2026	20 20	1.76	\$127.00
Willow Creek Bore No. 2 Rising Mains	150 RM Willow Ck to Morton Av (63-65)	Y YH YW M Y YH YW M	2007 2007	2007 2007	\$278,743.00 \$119,057.12	\$278,743.00 \$119,057.12			3,878 3,878	\$71.88 \$30.70	2026 2007	20 1	1.76 1.00	\$127.00 \$31.00
Rising Mains Rising Mains	100 RM Willow Ck to Morton Av (66)	Y YH YW M Y YH YW M Y YH YW M	2007 2007 2007	2007 2007 2007	\$278,743.00 \$119,057.12 \$115,636.00	\$278,743.00 \$119,057.12 \$115,636.00			3,878 3,878 3,878	\$71.88 \$30.70 \$29.82	2026 2007 2007	20 1 1	1.76 1.00 1.00	\$127.00 \$31.00 \$30.00
Rising Mains Rising Mains Rising Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55)	Y YH YW M Y YH YW M Y YH YW M Y YH YW M	2007 2007 2007 2007 2007	2007 2007 2007 2007	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73			3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50	2026 2007 2007 2007	20 1 1 1	1.76 1.00 1.00 1.00	\$127.00 \$31.00 \$30.00 \$10.00
Rising Mains Rising Mains Rising Mains Rising Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58)	Y YH YW M Y YH YW M Y YH YW M Y YH YW M Y YH YW M	2007 2007 2007 2007 2007 2007	2007 2007 2007 2007 2007 2007	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00			3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97	2026 2007 2007 2007 2007 2007	20 1 1 1 1	1.76 1.00 1.00 1.00 1.00	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00
Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner Pl (59-62)	Y YH YW M Y YH YW M Y YH YW M Y YH YW M	2007 2007 2007 2007 2007 2007 2007	2007 2007 2007 2007 2007 2007 2007	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90	\$278,743.00 \$119,057.12 \$115,636.00 \$40,639.73 \$19,259.00 \$78,502.90			3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24	2026 2007 2007 2007 2007 2007 2007	20 1 1 1 1 1	1.76 1.00 1.00 1.00 1.00 1.00	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$20.00
tising Mains tising Mains tising Mains tising Mains tising Mains tising Mains tising Mains tising Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner Pl (59-62) 100 RM Quarry Bore to O'Connor St (67)	Y YH YW M Y	2007 2007 2007 2007 2007 2007 2007 2008	2007 2007 2007 2007 2007 2007 2007 2008	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17	2026 2007 2007 2007 2007 2007 2007 2007	20 1 1 1 1 1 1	1.76 1.00 1.00 1.00 1.00 1.00 1.00	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$20.00 \$22.00
Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner Pl (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd	Y YH YW M Y YH YW M	2007 2007 2007 2007 2007 2007 2007 2008 2016	2007 2007 2007 2007 2007 2007 2007 2008 2016	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$90,000.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$68,660.57			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.71	2026 2007 2 2007 2007 2007 2007 2007 2008 2031	20 1 1 1 1 1 1 1 1 1 1	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.00	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$20.00 \$22.00 \$28.00
Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Rising Mains Frunk Mains Frunk Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner Pl (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd Water Main Replacement	Y YH YW M Y br>YW Bo Bi	2007 2007 2007 2007 2007 2007 2008 2016 2013	2007 2007 2007 2007 2007 2007 2007 2008 2016 2013	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$90,000.00 \$150,000.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$68,660.57 \$140,186.92			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.71 \$36.15	2026 2007 2007 2007 2007 2007 2007 2008 2031 2045	20 1 1 1 1 1 1 1 1 16 33	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.58 2.42	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$20.00 \$22.00 \$28.00 \$87.00
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kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains runk Mains runk Mains runk Mains runk Mains runk Mains runk Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner PI (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd Water Main Replacement Water Main Replacement	Y YH YW M Y br>YW Bo Bi	2007 2007 2007 2007 2007 2007 2007 2008 2016 2013 2014	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$90,000.00 \$150,000.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$68,660.57 \$140,186.92 \$131,015.81			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.71 \$36.15 \$33.378	2026 2007 2007 2007 2007 2007 2007 2008 2031 2045	20 1 1 1 1 1 1 1 1 16 33 32	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.58 2.42 2.36	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$20.00 \$22.00 \$28.00 \$87.00 \$80.00
kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains kising Mains runk Mains runk Mains runk Mains runk Mains runk Mains runk Mains runk Mains	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner PI (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd Water Main Replacement Water Main Replacement	Y YH YW M Y br>YW Bo Bi	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$85,950.00 \$85,970.00 \$90,000.00 \$150,000.00 \$36,882.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$68,660.57 \$140,186.92 \$131,015.81 \$36,882.00			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.77 \$36.15 \$33.78 \$9.51	2026 2007 2007 2007 2007 2007 2008 2031 2045 2045 2045	20 1 1 1 1 1 1 1 1 16 33 32 40	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.58 2.42 2.36 2.80	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$22.00 \$22.00 \$28.00 \$87.00 \$87.00 \$27.00
Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Frunk Main	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner PI (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd Water Main Replacement Water Main Replacement	Y YH YW M Y br>YW Bo Bi	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$85,970.00 \$80,000.00 \$150,000.00 \$36,882.00 \$274,415.00 \$150,000.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$119,259.00 \$78,502.90 \$85,970.00 \$68,660.57 \$140,186.92 \$131,015.81 \$36,882.00 \$274,415.00 \$116,822.43 \$28,037.38			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.71 \$36.15 \$33.78 \$9.51	2026 2007 2007 2007 2007 2007 2008 2031 3 2045 2045 2045 2045 2045	20 1 1 1 1 1 1 1 1 1 6 33 32 40	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.58 2.42 2.36 2.80	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$22.00 \$28.00 \$87.00 \$87.00 \$27.00
Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Kising Mains Frunk Main	100 RM Willow Ck to Morton Av (66) 150 RM Willow Ck to Morton Av Bore 2 (52-55) 150 RM Willow Ck to Morton Av Bore 1 (56-58) 150 RM Willow Ck to Morton Av -Rayner Pl (59-62) 100 RM Quarry Bore to O'Connor St (67) 200 TM Grand Junction Rd Water Main Replacement Water Main Replacement 150 TM Hume Hwy (11)	Y YH YW M Y br>YW Bo Bi	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	2007 2007 2007 2007 2007 2007 2008 2016 2013 2014 2006	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$90,000.00 \$150,000.00 \$36,882.00	\$278,743.00 \$119,057.12 \$115,636.00 \$40,699.73 \$19,259.00 \$78,502.90 \$85,970.00 \$68,660.57 \$140,186.92 \$131,015.81 \$36,882.00 \$274,415.00 \$116,822.43 \$28,037.38			3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878 3,878	\$71.88 \$30.70 \$29.82 \$10.50 \$4.97 \$20.24 \$22.17 \$17.71 \$36.15 \$33.78 \$9.51	2026 2007 2007 2007 2007 2007 2008 2031 2045 2045 2045 2045 2045	20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 33 32 40	1.76 1.00 1.00 1.00 1.00 1.00 1.00 1.58 2.42 2.36 2.80	\$127.00 \$31.00 \$30.00 \$10.00 \$5.00 \$22.00 \$28.00 \$87.00 \$87.00 \$27.00 \$125.00 \$48.00 \$48.00 \$1.383.00
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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

TOTAL

\$11,392.00 \$19,382.00

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

3% 7% 7%

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

Yass_W_DC_a_data direct_max zone ET_d.xls YASS EXIST. & OTHERS <500 ET 5:43 PM 7/03/2013 Page 3 of 7 YASS VALLEY COUNCIL WATER SUPPLY HAMILTON RISE SUBDIVISION + Y=Yass General YL=Yass - Laidlaw St YH=Yass - Hamilton Rise YW=Yass - Wellington St Bi=Binalong Bo=Bowning

			YB= Yass - Bk Ran	ge Rd	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													
Dest (000 West)													
Post 1996 Works													
			+										
Dams & Reservoirs													
Hamilton Rise Reservoir 2 ML	УН	2021	2021	\$3.343.680.00	\$1,818,740.38			575	\$3,163.03	2030	10	1.33	\$4,209.0
		2021	2021	ψο,ο το,οσο.σο	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			0.0	\$0,100.00	2000		1.00	ψ1,200.0
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	\$659.0 \$2,058.0
Hamilton Rise Suction & RM	YH	2020	2020	\$1,440,000.00	\$838,093.11			575	\$1,457.55	2031	12	1.41	\$2,058.0
			+										
Treatment Works & Pumping Stations			+										
Treatment works & Lamping Stations			1										
Upstream zone contributions													\$7,990.0
apanaum zana aanmamana													ψ1,000.0
Total				\$5,244,480	\$2,925,023		ı	I	\$5,087	I			\$14,916.0

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

YASS VALLEY COUNCIL WATER SUPPLY

MURUMBATEMAN

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

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				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	IM	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				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				1,000	\$216.32	2045	31	2.31	\$500.00
Rising Mains	200 RM MALL-Murrumbatem	an	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				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
<u>Miscellaneous</u>														
Management	Yass-Murrumbatement WS Fin		2013	2013	\$150,000.00	\$140,186.92			1,000	\$140.19	2045	33	2.42	\$339.00
Management	Detailed design Murrumbateme	ent 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) Rate of return (post 1996) 3% 7% 7% Discount Rate Year Now 2012/13

ALL AREAS CONTRIBUTION \$11,392.00 TOTAL \$30,503.00

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

Yass_W_DC_a_data direct_max zone ET_d.xls MURUMBATEMAN 5:43 PM 7/03/2013 Page 5 of 7

Capital Charge Summary	COM	PONENT	\$/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				\$/ET
(based on design ET)				
<u>Location</u>			Dev. Charge ET	Cap Charge
YASS EXIST & OTHER < 500 ET			499	19,382
HAMILTON			575	26,308
MURUMBATEMAN			745	30,503
	7	Weighted Capital Char	rge	26,126

Summary

Location		Capital Charge	Reduction	Developer
		/ET	/ ET	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

<u>essments</u>			factor	ET's	ET/ Residential Assessment
Residen	ntial Assessments comprised of:	3,611		3,417	<u>0.95</u>
	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-Re	esidential assessments	328			
ual Revenue	from Rates and Charges				
				ET's	ET/ Non-Residential Assessment
11/12	Residential Revenue	\$2,694		0	<u>1.75</u>
11/12	Non-Residential Revenue	\$0			
11/12	Pensioner Rebate Grant	\$24			
	Total Revenue	\$3,537			

Yass_W_DC_a_data direct_max zone ET_d.xlsReduction

Table X - Calculation of Developer Charges using the NPV of Annual Charges Method
Based on Input Reduction Amounts of #### /ET (1st iteration)

Yass Valley Council - Water Supply

Year																				
Year No.	. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Yea	r 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 Yea	r 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	C
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	C
Assessments & ETs																				
11/1	2 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 0.9																				
ET per Non Residential Assessment 1.7	5																			
Total ETs 3,30	2 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 Charge	es, Pension	er Rebate	Grant																	
Revenue (\$'000) (2012/13\$		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
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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	-	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		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	7,898	8,057	8,311	8,689	8,976	9,192	9,677			10,367					
% Difference Between the Input and Output		,	,	,	,	,	.,	-,-	-,	-,-	-,	.,	-,	-,	-,	.,	-,	,	,	,
,																				

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 32/33	22 33/34	23 34/35	24 35/36	25 36/37	26 37/38	27 38/39	28 39/40	29 40/41	30 41/42	31 42/43	32 43/44	33 44/45	34 45/46	35 46/47	36 47/48	37 48/49	38 49/50	39 50/51	40 51/52	41 52/53	42 53/54	43 54/55	44 55/56	45 56/57	46 57/58	47 58/59	48 59/60	49 60/61	50 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 4,030	29,030 4,030	29,030 4 030	29,030 4,030	29,030 4,030	29,030 4,030		29,028 4,030	29,028 4,030	29,028 4,030	29,028	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028 4,030	29,028	29,028 4,030	29,028 4,030	29,028 4,030	29,028
4,000	4,000	4,000	4,000	4,000	4,030	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,030	4,000	4,000	4,000	4,000	4,000	4,000	4,030	4,000	4,000	4,000	4,000	4,000	4,000	4,000
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,	-,	5,555	5,251	-,	-,	-,	-,	5,. 55	5,100	-,	-,	-,	5,	-,	-,	-,	5,	5,	-,	-,	5,	5,100	-,	-,	5,	-,
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 2.160	116 2,276	116 2,392	116 2,509	116 2,625	116 2.741		116 2,974	116 3,090	116 3,206	116 3,322	116 3,439	116 3.555	116 3,671	116 3.787	116 3,904	116 4,020	116 4,136	116 4,252	116 4.369	116 4.485	116 4.601	116 4.717	116 4.834	116 4.950	116 5.066	116 5,182	116 5,299	116 5,415	116 5,531
1,544	1,544	1,544	1,544	1,544	1,544	,	1,544	1,544	1,544	1,544	3,435	3,333	3,071	3,767	3,304	4,020	4,130	4,232	4,505	4,405	4,001	4,717	4,034	4,330	3,000	3,102	3,299	3,413	3,331
	-		-				-			-																			
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		4,311	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 18,033	1,537 17,972	1,665 17,973	1,799 17,884	1,941 17,690	2,088 17,378		2,398 16,395	2,558 15,757	2,726 15,010	2,824 14,104	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
,	,	,0	,	,230	,	, . 30	, 0	,	, •	,																			
						10,981 10,981				9,138 9,138																			
																													_

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

Yass Valley Council - Water Supply

29,028 29,028 2 29,030 29,030 2 8,057 8,311 8 20,970 20,720 2 19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	9 10 20/21 21/22 29,028 29,028 29,030 29,030 29,030 29,030 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356 4,124 4,219	29,028 29,030 9,192 19,840 18,850 32,988	29,028 29,030 9,677 19,350 18,380 32,165 23/24 4,051 364 - 4,415	29,028 29,030 9,912 19,120 18,160 31,780 24/25 4,148 368 - 4,516	29,028 29,030 29,030 10,137 18,890 31,413 25/26 4,248 372 - 4,620	29,028 29,030 10,367 18,660 17,730	29,028 29,030 10,585 18,450 17,530 30,678 27/28 4,454 380 -	29,028 29,030 10,801 18,230 30,310 28/29 4,561 384 - 4,945	29,028 29,030 11,024 18,010 17,110 29,943 29/30 4,670 388 - 5,058	29,028 29,030 11,239 17,790 29,575 30/31 4,782 392 - 5,174	22 21 11,			
29,028 29,028 2 29,030 29,030 2 8,057 8,311 8 20,970 20,720 2 19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,028 29,028 29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,028 29,030 9,192 19,840 18,850 32,988 22/23 3,956 -	29,028 29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,028 29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,028 29,030 10,137 18,890 17,950 31,413 25/26 4,248 372	29,028 29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,028 29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,028 29,030 10,801 18,230 17,320 30,310 28/29 4,551 384	29,028 29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,028 29,030 11,239 17,790 16,900 29,575 30/31 4,782 392 -	22 21 11,			
29,030 29,030 2 8,057 8,311 8 20,970 20,720 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,030 9,192 19,840 18,850 32,988 22/23 3,956 360	29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,030 10,137 18,890 17,950 31,413 25/26 4,248 372 -	29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,030 10,801 18,230 17,320 30,310 28/29 4,561 384 -	29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,030 11,239 17,790 16,900 29,575 30/31 4,782 392	29			
29,030 29,030 2 8,057 8,311 8 20,970 20,720 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,030 9,192 19,840 18,850 32,988 22/23 3,956 360	29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,030 10,137 18,890 17,950 31,413 25/26 4,248 372 -	29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,030 10,801 18,230 17,320 30,310 28/29 4,561 384 -	29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,030 11,239 17,790 16,900 29,575 30/31 4,782 392	29			
29,030 29,030 2 8,057 8,311 8 20,970 20,720 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,030 9,192 19,840 18,850 32,988 22/23 3,956 360	29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,030 10,137 18,890 17,950 31,413 25/26 4,248 372 -	29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,030 10,801 18,230 17,320 30,310 28/29 4,561 384 -	29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,030 11,239 17,790 16,900 29,575 30/31 4,782 392	29			
29,030 29,030 2 8,057 8,311 8 20,970 20,720 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,030 9,192 19,840 18,850 32,988 22/23 3,956 360	29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,030 10,137 18,890 17,950 31,413 25/26 4,248 372 -	29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,030 10,801 18,230 17,320 30,310 28/29 4,561 384 -	29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,030 11,239 17,790 16,900 29,575 30/31 4,782 392	29			
29,030 29,030 2 8,057 8,311 8 20,970 20,720 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	29,030 29,030 8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	29,030 9,192 19,840 18,850 32,988 22/23 3,956 360	29,030 9,677 19,350 18,380 32,165 23/24 4,051 364	29,030 9,912 19,120 18,160 31,780 24/25 4,148 368	29,030 10,137 18,890 17,950 31,413 25/26 4,248 372 -	29,030 10,367 18,660 17,730 31,028 26/27 4,350 376	29,030 10,585 18,450 17,530 30,678 27/28 4,454 380	29,030 10,801 18,230 17,320 30,310 28/29 4,561 384 -	29,030 11,024 18,010 17,110 29,943 29/30 4,670 388	29,030 11,239 17,790 16,900 29,575 30/31 4,782 392	29			
8,057 8,311 8 20,970 20,720 2 19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356 - -	9,192 19,840 18,850 32,988 22/23 3,956 360	9,677 19,350 18,380 32,165 23/24 4,051 364	9,912 19,120 18,160 31,780 24/25 4,148 368	10,137 18,890 17,950 31,413 25/26 4,248 372	10,367 18,660 17,730 31,028 26/27 4,350 376	10,585 18,450 17,530 30,678 27/28 4,454 380	10,801 18,230 17,320 30,310 28/29 4,561 384	11,024 18,010 17,110 29,943 29/30 4,670 388	11,239 17,790 16,900 29,575 30/31 4,782 392	11,			
8,057 8,311 8 20,970 20,720 2 19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	8,689 8,976 20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356 - -	9,192 19,840 18,850 32,988 22/23 3,956 360	9,677 19,350 18,380 32,165 23/24 4,051 364	9,912 19,120 18,160 31,780 24/25 4,148 368	10,137 18,890 17,950 31,413 25/26 4,248 372	10,367 18,660 17,730 31,028 26/27 4,350 376	10,585 18,450 17,530 30,678 27/28 4,454 380	10,801 18,230 17,320 30,310 28/29 4,561 384	11,024 18,010 17,110 29,943 29/30 4,670 388	11,239 17,790 16,900 29,575 30/31 4,782 392	11,			
20,970 20,720 2 19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	20,340 20,050 19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356	19,840 18,850 32,988 22/23 3,956 360	19,350 18,380 32,165 23/24 4,051 364	19,120 18,160 31,780 24/25 4,148 368	18,890 17,950 31,413 25/26 4,248 372	18,660 17,730 31,028 26/27 4,350 376	18,450 17,530 30,678 27/28 4,454 380	18,230 17,320 30,310 28/29 4,561 384	18,010 17,110 29,943 29/30 4,670 388	17,790 16,900 29,575 30/31 4,782 392	11 11 22			
19,920 19,680 1 34,860 34,440 3 18/19 19/20 3,598 3,684 5 346 349	19,320 19,050 33,810 33,338 20/21 21/22 3,772 3,863 352 356 	18,850 32,988 22/23 3,956 360	18,380 32,165 23/24 4,051 364	18,160 31,780 24/25 4,148 368	17,950 31,413 25/26 4,248 372	17,730 31,028 26/27 4,350 376	17,530 30,678 27/28 4,454 380	17,320 30,310 28/29 4,561 384	29/30 4,670 388	30/31 4,782 392	2:			
34,860 34,440 3 18/19 19/20 3,598 3,684 3 346 349	33,810 33,338 20/21 21/22 3,772 3,863 352 356 	32,988 22/23 3,956 360	23/24 4,051 364	31,780 24/25 4,148 368	25/26 4,248 372	26/27 4,350 376	27/28 4,454 380	28/29 4,561 384	29,943 29/30 4,670 388	30/31 4,782 392	2			
18/19 19/20 3,598 3,684 3 346 349 -	20/21 21/22 3,772 3,863 352 356 	22/23 3,956 360	23/24 4,051 364	24/25 4,148 368	25/26 4,248 372	26/27 4,350 376	27/28 4,454 380	28/29 4,561 384	29/30 4,670 388	30/31 4,782 392	4			
3,598 3,684 3 346 349 	3,772 3,863 352 356 	3,956 360 -	4,051 364 -	4,148 368 -	4,248 372 -	4,350 376 -	4,454 380 -	4,561 384 -	4,670 388 -	4,782 392 -	-			
3,598 3,684 3 346 349 	3,772 3,863 352 356 	3,956 360 -	4,051 364 -	4,148 368 -	4,248 372 -	4,350 376 -	4,454 380 -	4,561 384 -	4,670 388 -	4,782 392 -				
3,598 3,684 3 346 349 	3,772 3,863 352 356 	3,956 360 -	4,051 364 -	4,148 368 -	4,248 372 -	4,350 376 -	4,454 380 -	4,561 384 -	4,670 388 -	4,782 392 -	-			
3,598 3,684 3 346 349 	3,772 3,863 352 356 	3,956 360 -	4,051 364 -	4,148 368 -	4,248 372 -	4,350 376 -	4,454 380 -	4,561 384 -	4,670 388 -	4,782 392 -				
		-	-	-	-	-	-	-	-	-				
3,944 4,033 4	 4,124 4,219	4,316	4,415	- 4,516	- 4,620	4,726	4,834	4,945	5,058	5,174				
3,944 4,033 4	4,124 4,219	4,316	4,415	4,516	4,620	4,726	4,834	4,945	5,058	5,174				
	•		,	•						•				
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				
85 87	89 93	95	97	99	102	104	106	109	111	113				
722 809	898 991	1,087	1,184	1,283	1,385	1,489	1,595	1,703	1,814	1,927				
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				
Revenue and Expenditure														
Revenue and Expenditure Rates & Charges Revenue, Trade Waste Charges, Other Sales and Charges, Pensioner Rebate Grant														
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				
											_			
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				
	•													
2,003 2,020	2,096 2,211	2,214	2,334	2,458	2,581	2,709	2,838	2,967	3,100	3,234				
359 398	448 511	548	616	688	763	842	924	1,010	1,099	1,192				
11,053 11,580 1	12,288 12,875	13,339	14,196	14,690	15,165	15,633	16,075	16,505	16,924	17,316	1			
8,057 8,311 8	8,689 8,976	9,192	9,677	9,912	10,137	10,367	10,585	10,801	11,024	11,239	1			
							40 505	40.004	11 024	11 239				
8,057 8,311 8	8,689 8,976	9,192	9,677	9,912	10,137	10,367	10,585	10,801	11,024	,	-11			
359 398 11,053 11,580 1 8,057 8,311 8	448 511 12,288 12,875 8,689 8,976	548 13,339 9,192	616 14,196 9,677	688 14,690 9,912	763 15,165	842 15,633 10,367	924 16,075 10,585	1,010 16,505 10,801	1,099 16,924 11,024	1,192 17,316 11,239	11			
1 8,	2,145 2,229 2,003 2,020 359 398 11,053 11,580 ,057 8,311	2,145 2,229 2,256 2,248 2,003 2,020 2,096 2,211 359 398 448 511 1,053 11,580 12,288 12,875 ,057 8,311 8,689 8,976	2,145 2,229 2,256 2,248 2,351 2,003 2,020 2,096 2,211 2,214 359 398 448 511 548 1,053 11,580 12,288 12,875 13,339 ,057 8,311 8,689 8,976 9,192	2,145 2,229 2,256 2,248 2,351 2,342 2,003 2,020 2,096 2,211 2,214 2,334 359 398 448 511 548 616 11,053 11,580 12,288 12,875 13,339 14,196 ,057 8,311 8,689 8,976 9,192 9,677	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,003 2,020 2,096 2,211 2,214 2,334 2,458 359 398 448 511 548 616 688 1,053 11,580 12,288 12,875 13,339 14,196 14,690	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,324 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 359 398 448 511 548 616 688 763 11,053 11,580 12,288 12,875 13,339 14,196 14,690 15,165 ,057 8,311 8,689 8,976 9,192 9,677 9,912 10,137	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,324 2,316 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 2,709 359 398 448 511 548 616 688 763 842 10,053 11,580 12,288 12,875 13,339 14,196 14,690 15,165 15,633 0,057 8,311 8,689 8,976 9,192 9,677 9,912 10,137 10,367	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,324 2,316 2,308 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 2,709 2,838 359 398 448 511 548 616 688 763 842 924 11,053 11,580 12,288 12,875 13,339 14,196 14,690 15,165 15,633 16,075 ,057 8,311 8,689 8,976 9,192 9,677 9,912 10,137 10,367 10,585	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,324 2,316 2,308 2,303 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 2,709 2,838 2,967 359 398 448 511 548 616 688 763 842 924 1,010 1,053 11,580 12,288 12,875 13,339 14,196 14,690 15,165 15,633 16,075 16,505 ,057 8,311 8,689 8,976 9,192 9,677 9,912 10,137 10,367 10,585 10,801	2,145 2,229 2,256 2,248 2,351 2,342 2,333 2,324 2,316 2,308 2,303 2,298 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 2,709 2,838 2,967 3,100 359 398 448 511 548 616 688 763 842 924 1,010 1,099 1,053 11,580 12,288 12,875 13,339 14,196 14,690 15,165 15,633 16,075 16,505 16,324 ,057 8,311 8,689 8,976 9,192 9,677 9,912 10,137 10,367 10,585 10,801 11,024	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 2,003 2,020 2,096 2,211 2,214 2,334 2,458 2,581 2,709 2,838 2,967 3,100 3,234 3,59 398 448 511 548 616 688 763 842 924 1,010 1,099 1,192 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 ,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			

Difference Less Than 2%, Calculation Complete

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

 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 21,847 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	29,028	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
					11,259		10,622		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 5,015	33/34 5,135	34/35 5,258	35/36 5,384	36/37 5,513	37/38 5,645	38/39 5,780	39/40 5,919	40/41 6,061	41/42 6,206	42/43 6,355	43/44 6,355	44/45 6,355	45/46 6,355	46/47 6,355	47/48 6,355	48/49 6,355	49/50 6,355	50/51 6,355	51/52 6,355	52/53 6,355	53/54 6,355	54/55 6,355	55/56 6,355	56/57 6,355	57/58 6,355	58/59 6,355	59/60 6,355	60/61 6,355	61/62 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
-	-	-	- 412	-	-	- 424	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
-,	-,	5,000	-,	0,000	5,555	-,	-,	3,	-,	-,	-,	-,	-,	3,	-,	-,	-,	2,122	-,	-,	-,	-,	-,	2,122	-,	-,,,,,,	-,	-,	-,
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																			
44 602	44 642	11 611	44 507	44 464	44 250	10 001	40.622	10 200	0.724	0.430																			
					11,259			10,208	9,724	9,138																			
11,003	11,043	11,044	11,307	11,401	11,239	10,901	10,022	10,206	9,124	3,136																			

ESTIMATED TAKE-UP OF NEW SUBDIVISION LAND (Starting point based on water connections) Yass & Bowning EP/ET= 2.6 R-ET Residential equivalent tenements Binalong EP/ET= 2.4 C-ET Commercial equivalent tenements

Murrumbateman EP/ET=

(Average Commercial consumer = 1.75 ET)

∑ ET Residential plus Commercial equivalent tenements

+880 ET

			5/5 E I	200 E I	230 E I	+1418 E	I≈600 EI										+880 E	= 1				_
Year	Yass Population	Yass	Hamilton Rise	Wellington Rd	Laidlaw St	Yass Residual	Black Range Rd	Yass C ET	Bowning Population	Binalong Population	Bo + Bi ET	R-Bo + Bi (C Yass + Bov	vning + E	Binalong		Murrui	mbater	nan		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		3,070	315	105	17	122	361	8,365	
2012	5,970	2,296				56		490	265	410	273	72	6,645		3,131	317	106	17	123	363	8,526	
2013		2,353	30	10		17		495	271	418	278	73	6,807	8,340		336	113	17	130	382	8,722	
2014	6,272	2,412	25	10		24		500	276	425	283	73	6,973		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		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		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		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		623	219	17	236	668	9,958	
2019	7,096	2,729	30	10	10	17		525	305	465	309	77	7,866		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		3,721	763	271	18	289	812	- , -	New Water Murrum
2021	7,455	2,867	30	10	10	20		536	317	482	320	79	8,254		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		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		1,011	363	28	391	1,087		
2024	8,028	3,088	30	10	15	20		552	336	508	338	81	8,873	10,583	,	1,100	396	28	424	, .	11,759	
2025	8,229	3,165	30	10	15	22		558	343	518	344	82	9,090	10,817		1,192	430	29		1,271		
2026	8,435	3,244	30	10	15	24		563	350	527	350	83	9,312	11,056	,	1,289	466	34			12,437	
2027	8,646	3,325	30	10	15	26		569	357	536	357	84	9,539	11,301		1,395	505	34			12,787	
2028	8,862	3,408	30	10	15	28		575	364	546	363	84	9,772	11,551		1,508	547	35		,	13,154	
2029	9,083	3,494	30	10	15	30		580	371	556	370	85	10,011	11,808		1,627	591	35			13,529	
2030	9,311	3,581	20	10	15	42		586	379	566	376	86	10,255	12,070		1,754	638	40		1,862	.,	
2031	9,543	3,671	20	10	15	45		592	386	576	383	87	10,506	12,339		1,902	693	40		2,010		
2032	9,782	3,762	20	10	15	47		598	394	586	390	88	10,762	12,614		2,081	759	41		2,191		
2033		3,856	20			74		604	402	597	397	89	11,025	12,895			834	41		2,394		D.111.0
2034	10,277	3,953				96		610	410	608	404	90	11,295	13,184		2,488	910	41		2,599		DAM @ capacity
2035	10,534	4,052				99		616	418	619	412	91	11,571	13,479		2,623	960	41		2,734		Murrum @ capacity
2036	10,797	4,153				101		622	427	630	419	91	11,854	13,780		2,758	1010			2,874		
2037	11,067	4,257				104		628	435	641	427	92	12,144	14,090	,	2,893	1060				17,099	
2038	11,344	4,363				106		635	444	653	435	93	12,440	14,406			1110				17,550	
2039	11,628	4,472				109		641	453	664	443	94	12,745	14,730			1160				18,009	
2040		4,584				112		647	462	676	451	95	13,056	15,061		3,298	1210				18,476	Vana @ annas't
2041	12,216	4,699				115		654	471	689	459	96	13,376	15,401	,	3,433	1260					Yass @ capacity
2042	12,522	4,816				117		660	480	701	467	97	13,703	15,748		3,568	1310			3,690		
2043		4,936				120		667	490	714	476	98	14,038	16,104		3,703	1360			3,825	.,	
2044	13,156	5,060				123		674	500	726	485	99	14,382	16,468			1410			3,960		
2045	13,484	5,186	E7E	200	225	126	0	680	510	740	493	100	14,734	16,841		•	1460			-	20,936	
			575	200	225	1,994	U					rass +	Bowning + E	omaiong	2.0		wur	rumpa	teman	2.1	EP/ET	

