BREEDE VALLEY

MUNICIPALITY • MUNISIPALITEIT • UMASIPALA

Annual Water Services Development Plan Performance- and Water Services Audit Report

as directed by the Water Services Act (Act 108 of 1997) and the Regulations relating to Compulsory National Standards and Measures to Conserve Water

FY 2020 / 2021

Version Control

	Description	Date	Reference
Version 1			
Version 2			
Version 3			
Approval			

Prepared by:

Designation	Name	Contact No.	E-mail
Acting-Director: Public Services	J. Pekeur	023 348 2803	jpekeur@bvm.gov.za
Senior Manager Water Services	J. Pekeur	023 348 2803	jpekeur@bvm.gov.za
Manager Water & Waste Water Treatment	S. Langner	023 348 2923	slangner@bvm.gov.za
Manager Water Services Networks	W. Titus	023 348 2625	wtitus@bvm.gov.za
Senior Manager Financial Planning	B. Volschenk	023 348 4992	bvolschenk@bvm.gov.za
Senior Manager Billing	M. Magadla	023 348 2669	mmagadla@bvm.gov.za

Foreword

This report is submitted as a fulfilment of the requirements stated in the Water Services Act, 1997 (Act No. 108 of 1997), as well as the 'Regulations relating to compulsory national standards and measures to conserve water', as issued in terms of sections 9 (1) and 73 (1) (j) of the Water Services Act, 1997, to report on the implementation of its water services development plan during each financial year and to include a water services audit in such annual report.

In October 2010, the Department of Water Affairs issued a draft template to support Water Services Authorities in complying with the legal framework and the template was termed the "WSA Annual Business Plan: Audit Report on the Implementation of the WSDP".

The water services audit is designed to monitor the compliance of the WSA and other WSPs with these regulations. It allows the water services audit to be used as a tool to compare actual performance of the WSA against the targets and indicators set in their WSDP. It also assists local communities and DWS to assess how well WSAs are performing relative to their stated intentions and their capacity.

The Annual Report is compiled as required by the Local Government: Municipal Systems Act, Act no 32 of 2000 (Section 46) and the Local Government: Municipal Finance Management Act, Act no 56 of 2003 (Section 121).

Methodology followed: The Service Delivery Budget Implementation Plan (SDBIP) of Breede Valley Municipality for 2020/2021 was used to report on the KPIs for water and sewerage services. The previous WSDP was further used as basis to compile the report. The latest water usage figures and WWTWs flows up to June 2020 were obtained from Breede Valley Municipality, analysed and included under the various sections of the Water Services Audit Report.

Availability of the Water Services Audit Report: The Water Services Audit Report is a public document and must be made available within four months after the end of each financial year and must be available for inspection at the offices of the Municipality. The document will be placed on the Municipality's website and copies of the document will be placed at the public libraries. The document will also be submitted to DWS for their comments as required by legislation.

The Breede Valley Municipality remains committed to basic service provision. Building towards the municipality's vision to be "A unique and caring valley of service excellence, opportunity and growth", the provision of sustainable services and the promotion of development are the key focus area of the municipality. In context of water services, the Breede Valley Municipality needs to overcome several challenges relating to basic services backlog, ageing infrastructure and the need to provide more serviced residential stands as well as improvements in respect of blue and green drop compliance.

From 2010 the municipality engaged in a process of improving the quality of our services. These efforts were geared at total quality improvement across the spectrum and would guarantee that we are set on a course of improving our services as we are addressing the leading factors that ensure that our turnaround strategy will be successful and that the fruit of our efforts will be seen within the foreseeable future. These improvements were wide spread and includes amongst others:

- Increasing the capacity of the Stettynskloof Water Supply Scheme
- Sustainable water supply to Rawsonville
- Rehabilitation of Water Supply Pipe Line from Bokriver to Touws River
- Provision of Water and Sewer Infrastructure to various settlements.

- Increasing the capacity of the Waste Water Treatment Works Plants
- More frequent monitoring of levels of final effluent
- Upskilling the knowledge of our process controllers
- Better resourced laboratory that ensured more efficient compliance monitoring.

My sincere appreciation to all who made this effort possible and specifically the community of the Breede Valley.

Sincerely,
D McThomas
MUNICIPAL MANAGER

Abbreviations and Definitions

DWA	Department of Water Affairs
BDS	Blue Drop Certification System
FY:	Financial Year - means in relation to – • a national or provincial department, the year ending 31 March; or • a municipality, the year ending 30 June.
GDS	Green Drop Certification System
IDP:	Integrated Development Plan - An IDP is a legislative requirement for municipalities which identifies the municipality's key development priorities; formulates a clear vision, mission and values; formulates appropriate strategies; shows the appropriate organisational structure and systems to realise the vision and the mission and aligns resources with the development priorities.
MFMA	Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003)
m^3	cubic metres = 1 000 liter = 1 kiloliter
Ml	Megaliter = 1 000 kiloliter = 1 000 000 liter
SDBIP:	Service Delivery Budget Implementation Plan – is a management, implementation and monitoring tool that enable the Municipal Manager to monitor the performance of senior managers, the Mayor to monitor the performance of the Municipal Manager, and for the community to monitor the performance of the municipality.
WSA:	Water Services Authority - means a municipality with the executive authority and the right to administer water services as authorised in terms of the Municipal Structures Act, 1998 (Act No. 117 of 1998)
WSDP:	Water Services Development Plan – means the plan to be developed and adopted by the WSA in terms of the Water Services Act, 1997 (Act No. 108 o f1997)
WSDP Guide Framework	Modular tool which has been developed by the DWA to support Water Services Authorities in complying to the Water Services Act with respect to Water Services Development Planning and which is also used by the DWA to regulate such compliance
WSP:	Water Services Provider - means any person or institution who provides water services to consumers or to another water services institution, but does not include a water services intermediary

Table of Contents

Section A: Water Services Authority Profile

A1: Map of Water Services Authority Area of Jurisdiction

In terms of provincial notice 490/2000 (Provincial Gazette Extraordinary 5590) of 22 September 2000, the former municipalities of De Doorns, Rawsonville, Touws River and Worcester Transitional Council were dissolved and the Breede Valley Municipality (WC 025) was established. Latter came into effect on 6 December 2000. The Breede Valley Municipality is classified as a Category B municipality.

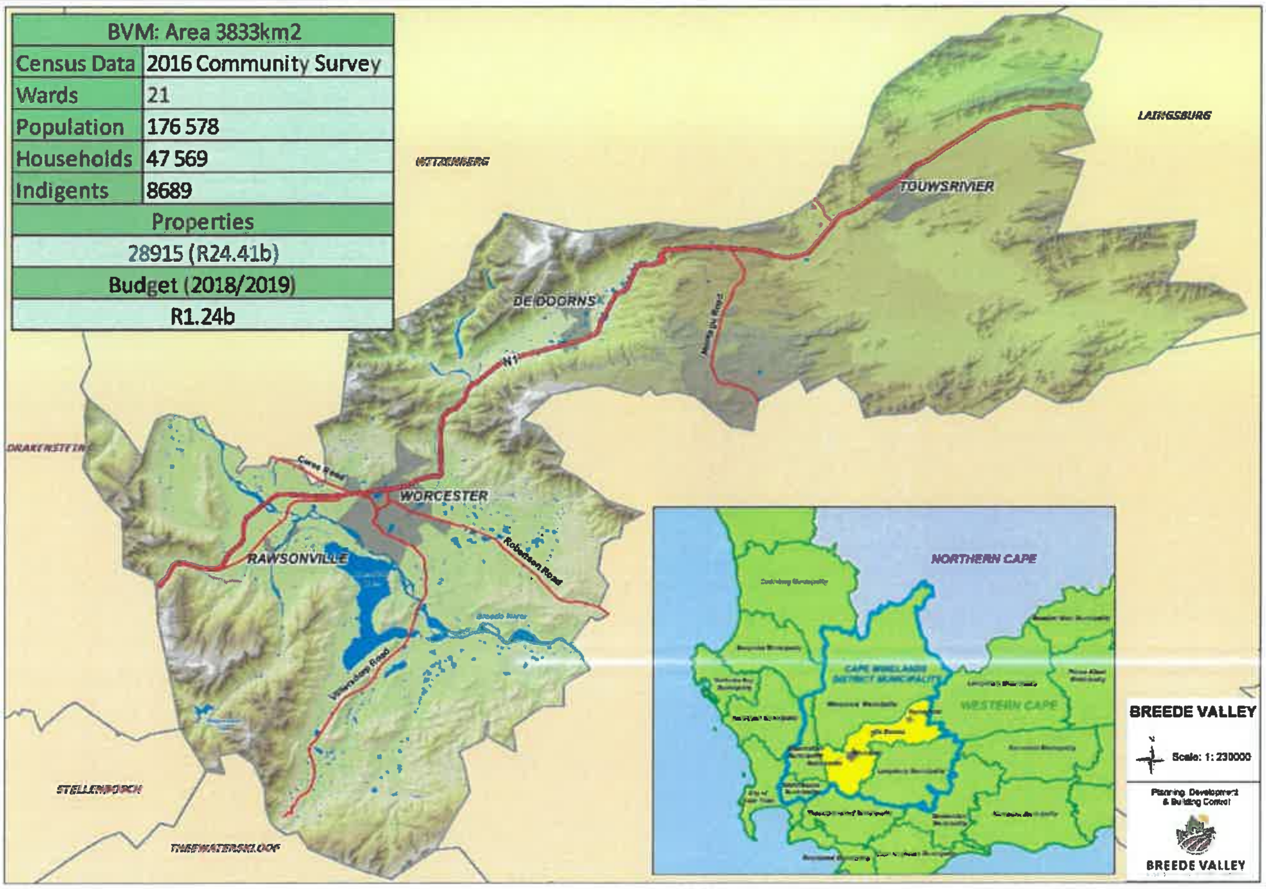
The Breede Valley Municipality covers an area of approximately 3 833 km² stretching from the Du Toitskloof Mountains in the south-west to the Kwadousberg Mountains in the south-east and including the towns of Rawsonville, Worcester, De Doorns and Touwsrivier as well as the rural areas adjacent to and between these towns and the Matroosberg rural area. The most striking feature of the Breede Valley in the Western Cape is its scenic beauty. Majestic mountains, fertile valleys, vineyards and vast plains, covered with indigenous semi-desert vegetation, captivate the soul. According to the Census 2011 figures the region has a counted population of 166 825 (inclusive of the informal settlements). Population size provides an indication of the volume of demand for government services in a particular geographical space. It also serves as a planning measure to assist budget planners to match available resources to address the relative demand for services.

The local municipality is approximately 100 kilometres east of Cape Town. It is part of the Cape Winelands District municipality. Breede Valley has the 2nd largest population in the Cape Winelands District which has a population size of 787 490. Breede Valley municipality's head office is located in Worcester.
Figure A1.1below indicates the location of Breede Valley Municipality in respect with the Cape Winelands District Municipality and Western Cape Provincial.

Figure A1.1: Location of WSA within DM/ Province

The population of Breede Valley was counted at 166 825 during the 2011 census which comprised approximately 42 527 households. The households are spread over a number of formal and informal settlement areas, which subsequent to the 2011 local elections were split into 21 wards. The increase in households and counted residents/households provides for a possible revenue increase in revenue, but also an increase in the demand for services. Figure A1.2 below indicates the location of Breede Valley Municipality authority area of jurisdiction.

Figure A1.2: Map of WSA area of jurisdiction



A2: Water services administration and organization

The relevant officials responsible for water services provision within the Breede Valley Municipality is outlined below.

Table A2.1: Water services administrative structure

Accounting Officer	
Designation:	**Municipal Manager**
Name:	**D. Mc Thomas**
Telephone Nr:	**023 348 2800**
Fax Nr:	**023 347 3671**
Cell Nr:	**083 778 9480**
Email:	**mm@bvm.gov.za**
WSA Manager	
Designation:	**Acting-Director: Public Services**
Name:	**J. Pekeur**
Telephone Nr:	**023 348 2802**
Fax Nr:	**023 348 2709**
Cell Nr:	**082 896 2090**
Email:	**jpekeur@bvm.gov.za**
WSP Manager	
Designation:	**Senior Manager Water Services**
Name:	**J. Pekeur**
Telephone Nr:	**023 348 2802**
Fax Nr:	**023 348 2709**
Cell Nr:	**082 896 2090**
Email:	**jpekeur@bvm.gov.za**
WSP Manager	
Designation:	**Manager Water & Waste Water Treatment**
Name:	**S. Langner**
Telephone Nr:	**023 348 2923**
Fax Nr:	**023 348 2709**
Cell Nr:	**082 456 995**
Email:	**slangner@bvm.gov.za**
WSP Manager	
Designation:	**Manager Water Services Networks**
Name:	**W.Titus**
Telephone Nr:	**023 348 2625**
Fax Nr:	**023 348 2709**
Cell Nr:	**073 784 6570**
Email:	**wtitus@bvm.gov.za**
IDP Manager	
Designation:	**Manager IDP/PM**
Name:	**C. Malgas**
Telephone Nr:	**023 348 2615**
Fax Nr:	**023 347 3671**
Cell Nr:	**076 055 4512**
Email:	**cmalgas@bvm.gov.za**

A3: Water services overview

The Breede Valley Municipality is currently structured into 21 wards. The region has a counted population of 176 578 comprising of 47 569 households, based on the Community Survey 2016 StatsSA data, of which approximately 14,7% (7000) are classified as indigent.

Figure A3.1a: Location of Municipal Wards within the Breede Valley Municipality

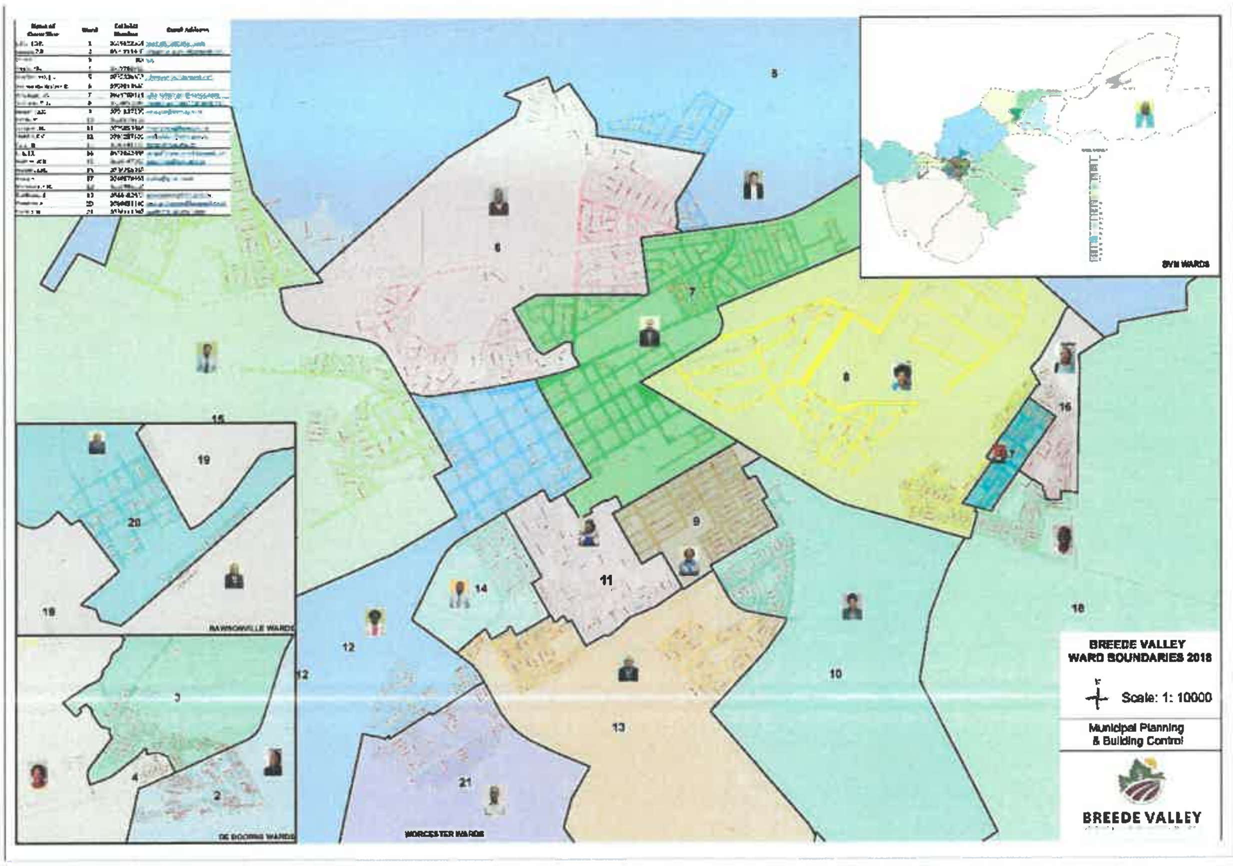


Table A3.1: Water services overview (water)

Settlement Type		2011*		2 018		2 019		2 020		Sanitation category									
		Households	Population	Households	Population	Households	Population	Households	Population	Adequate: Formal	Adequate: Informal	Adequate: Sahred Services	Water resources needs only	O&M needs only	Infrastructure needs only	Infrastructure & O&M needs	Infrastructure, O&M & Resource need	No Services: Informal	No Services: Formal
URBAN																			
Ward	Area									Adequate			Below RDP					None	
1	The entire commgunity of Touwsrivier, including business and residential area.	2 071	8 751	2 316	10 298	2 351	10 428	2 385	10 658	✓	✓	✓							
2	De Doorns South, Stofland and adjacent farms	3 361	9 413	3 760	10 393	3 816	10 525	3 873	10 756	✓		✓							
3	The centre of De Doorns, Hasie Square, Ekuphumleni and adjacent farm areas.	2 155	9 592	2 410	10 595	2 446	10 729	2 482	10 965	✓	✓	✓							
4	Section of De Doorns town centre, Orchards and adjacent farm areas.	2 276	9 981	2 546	11 004	2 584	11 143	2 622	11 389	✓									
5	De Doorns farming areas including Brandwag, De Wet and Sandhills	2 719	11 442	3 041	12 544	3 087	12 703	3 132	12 982	✓	✓	✓							
6	N1 Worcester entrance, Altona, Tuindorp, Bergsig, Van Riebeeck Park, Panorama, Hosp. Hills & Fairway Heights	1 654	5 349	1 851	6 124	1 879	6 202	1 906	6 338	✓									
7	Paglande, Meirings Park, Part of Roux Park, De La Bat, Fairy Glen, industrial area.	2 152	6 187	2 407	7 007	2 443	7 096	2 479	7 252	✓									
8	The Chessis and part of Worcester south (Zweletemba)	2 328	8 911	2 604	9 877	2 643	10 002	2 682	10 222	✓									
9	Roodewal area and Esselen Park	1 513	6 847	1 693	7 702	1 718	7 800	1 744	7 971	✓									
10	Hexpark, Johnsonspark and Roodewal Flats	1 633	7 924	1 827	8 838	1 854	8 950	1 882	9 147	✓									
11	OVD, Riverview and Parkersdam	1 757	6 694	1 966	7 541	1 996	7 637	2 025	7 805	✓									
12	Part of Avian Park, CBD and Russell Scheme	1 525	7 183	1 706	8 056	1 732	8 158	1 757	8 338	✓									
13	Johnsons Park 1, 2 & part of 3, part of Noble Park and Riverview houses.	1 749	7 592	1 956	8 487	1 985	8 595	2 015	8 784	✓									
14	Riverview flats & Victoria Park	1 321	5 924	1 477	6 730	1 499	6 815	1 521	6 965	✓									
15	Langrug, Worcester West, Somerset Park and Goudini farms	2 045	8 105	2 287	9 028	2 321	9 142	2 355	9 343	✓									
16	Zweletemba	2 703	7 938	3 023	8 861	3 068	8 973	3 113	9 171	✓	✓	✓							
17	Zweletemba	927	3 378	1 037	4 045	1 053	4 096	1 068	4 186	✓	✓	✓							
18	Zweletemba & farms from Overhex, Nonna, etc.	2 060	8 111	2 304	9 029	2 339	9 143	2 373	9 345	✓	✓	✓							
19	Part of centre of Rawsonville and outlaying farming community.	1 398	6 124	1 564	6 937	1 587	7 025	1 611	7 179	✓		✓							
20	Part of the centre of Rawsonville and areas towards N1.	1 828	7 627	2 044	8 519	2 075	8 627	2 105	8 817	✓	✓	✓							
21	Avian Park and all surrounding informal areas.	3 353	13 752	3 750	14 969	3 806	15 159	3 862	15 492	✓	✓	✓							
TOTAL		42 528	166 825	47 569	186 584	48 283	188 948	48 993	193 104	21	8	10	0	0	0	0	0	0	0

Table A3.2: Water services overview (sanitation)

Settlement Type		2011* Households	2011* Population	2 018 Households	2 018 Population	2 019 Households	2 019 Population	2 020 Households	2 020 Population	Sanitation category: Adequate: Formal	Adequate: Informal	Adequate: Sahred Services	Water resources needs only	O&M needs only	Infrastructure needs only	Infrastructure & O&M needs	Infrastructure, O&M & Resource need	No Services: Informal	No Services: Formal
URBAN																			
Ward	**Area**									Adequate			Below RDP					None	
1	The entire commgunity of Touwsrivier, including business and residential area.	2 071	8 751	2 316	10 298	2 351	10 428	2 385	10 658	✓	✓	✓							
2	De Doorns South, Stofland and adjacent farms	3 361	9 413	3 760	10 393	3 816	10 525	3 873	10 756	✓		✓							
3	The centre of De Doorns, Hasie Square, Ekuphumleni and adjacent farm areas.	2 155	9 592	2 410	10 595	2 446	10 729	2 482	10 965	✓	✓	✓							
4	Section of De Doorns town centre, Orchards and adjacent farm areas.	2 276	9 981	2 546	11 004	2 584	11 143	2 622	11 389	✓									
5	De Doorns farming areas including Brandwag, De Wet and Sandhills	2 719	11 442	3 041	12 544	3 087	12 703	3 132	12 982	✓	✓	✓							
6	N1 Worcester entrance, Altona, Tuindorp, Bergsig, Van Riebeeck Park, Panorama, Hosp. Hills & Fairway Heights	1 654	5 349	1 851	6 124	1 879	6 202	1 906	6 338	✓									
7	Paglande, Meirings Park, Part of Roux Park, De La Bat, Fairy Glen, Industrial area.	2 152	6 187	2 407	7 007	2 443	7 096	2 479	7 252	✓									
8	The Chessis and part of Worcester south (Zweletemba)	2 328	8 911	2 604	9 877	2 643	10 002	2 682	10 222	✓									
9	Roodewal area and Esselen Park	1 513	6 847	1 693	7 702	1 718	7 800	1 744	7 971	✓									
10	Hexpark, Johnsonspark and Roodewal Flats	1 633	7 924	1 827	8 838	1 854	8 950	1 882	9 147	✓									
11	OVD, Riverview and Parkersdam	1 757	6 694	1 966	7 541	1 996	7 637	2 025	7 805	✓									
12	Part of Avian Park, CBD and Russell Scheme	1 525	7 183	1 706	8 056	1 732	8 158	1 757	8 338	✓									
13	Johnsons Park 1, 2 & part of 3, part of Noble Park and Riverview houses.	1 749	7 592	1 956	8 487	1 985	8 595	2 015	8 784	✓									
14	Riverview flats & Victoria Park	1 321	5 924	1 477	6 730	1 499	6 815	1 521	6 965	✓									
15	Langrug, Worcester West, Somerset Park and Goudini farms	2 045	8 105	2 287	9 028	2 321	9 142	2 355	9 343	✓									
16	Zweletemba	2 703	7 938	3 023	8 861	3 068	8 973	3 113	9 171	✓	✓	✓							
17	Zweletemba	927	3 378	1 037	4 045	1 053	4 096	1 068	4 186	✓	✓	✓							
18	Zweletemba & farms from Overhex, Nonna, etc.	2 060	8 111	2 304	9 029	2 339	9 143	2 373	9 345	✓	✓	✓							
19	Part of centre of Rawsonville and outlaying farming community.	1 398	6 124	1 564	6 937	1 587	7 025	1 611	7 179	✓		✓							
20	Part of the centre of Rawsonville and areas towards N1.	1 828	7 627	2 044	8 519	2 075	8 627	2 105	8 817	✓	✓	✓							
21	Avian Park and all surrounding informal areas.	3 353	13 752	3 750	14 969	3 806	15 159	3 862	15 492	✓	✓	✓							
TOTAL		**42 528**	**166 825**	**47 569**	**186 584**	**48 283**	**188 948**	**48 993**	**193 104**	**21**	**8**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Section B: WSDP Performance Report

B1: WSDP reference and status

The Breede Valley Municipality developed its first Water Services Development Plan in June 2011 for the period to June 2016. A new Water Service Development Plan was developed and adopted in March 2018 for the period to 2023.

Table B1.1: WSDP- and reporting reference

Nr	WSDP Title and Reference	Status	Date	WSDP Year	Financial Year	Reporting year
1	Breede Valley Municipality Water Services Development Plan (WSDP) 2018 - 2023	Drafted:	March 2018	Year 1	**FY2014**	Year -4
		Comment submit:		Year 2	**FY2015**	Year -3
		Finalised:		Year 3	**FY2016**	Year -2
		Adopted:		Year 4	**FY2017**	Year -1
		Published:		Year 5	**FY2018**	Year 0

B2: Performance on water services objectives and strategies

Breede Valley Municipality has a comprehensive Performance Management System in place which is used to monitor organisational performance. The SDBIP is the process plan and performance indicator / evaluation for the execution of the budget. The SDBIP is being used as a management, implementation and monitoring tool that assists and guide the Executive Mayor, Councillors, Municipal Manager, Senior Managers and the community. The plan serves as an input to the performance agreements of the Municipal Manager and Directors. It also forms the basis for the monthly, quarterly, mid-year and the annual assessment report and performance assessments of the Municipal Manager and Directors. The Performance Audit Committee reviews the municipality's performance management system, which includes the quarterly reports produced and submitted by Internal Audit.

The performance evaluation of the water and sanitation indicators / targets, as included in the SDBIP and completed for the end of June 2021, is as follows (KPIs for Capital Projects and the Operational Performance):

Table 3.2: Service Delivery Indicators for Water and Sanitation Services

Ref	KPI Name	Unit of Measurement	Wards	2019/20		Overall Performance for 2020/21		
				Target	Actual	Target	Actual	R
TL10	Number of formal residential properties that are billed for water as at 30 June 2021	Number of residential properties that are billed for residential consumption water meters charged residential domestic tariffs or residential flat rate tariffs using an erf as a household except municipal rental flats which will be measured by using the number of rental units.	All	20890	21259	21 260	21 370	G2
TL22	Limit unaccounted water losses to less than 25% by 30 June 2021 {(Number of kilolitres water available from reservoirs - number of kilolitres water sold) / (number of kilolitres water purchased or purified) x 100}	% unaccounted for water	All	21%	31.12%	25.00%	24.28%	B
TL33	Review 5 year Water Service Development Plan (WSDP) and submit to Council for approval by 31 May 2021	Reviewed WSDP submitted to Council by 31 May 2021	All	1	1	1	1	G
TL31	Achieve 95% average water quality level as measured per SANS 241 criteria during the 2020/21 financial year	% water quality level per quarter	All	95%	96.50%	95.00%	95.13%	G2

B3: Status of water services projects

Table B3.1 below presents the municipality's water services projects with the focus on the projects which were planned for the 2020/2021 financial year. Due to the Covid - 19 pandemic some of these projects could not be implemented.

Table B3.1: Water Services projects status and performance

Table B3.1: Water Servcies projects status and performance

Nr	Project Title and Description	Inclusion		Total Project Cost R'000	Year 0 Performance - FY20XX			Funding Source(s)	Project Category / Type	Planned Period		Project Status	Actual Completion Year
		WSDP	IDP		FY Budget R'000	Expended R'000	%			From FY	To FY		
1	Reservoirs: Pre-Loads	√	√	R12 053	R12 053	R12 053	100%	Own Funding	Bulk Water	2020	2023	Tender	2023
2	Repalcement of Water Network	√	√	R1 000	R1 000	R1 000	100%	Own Funding	Network	2020	-	On-going	-
	Total			**R13 053**	**R6 527**	**R6 527**	**100%**						

B4: Past financial year water services project impact declaration

Table B4.1 below presents the municipality's water services projects that have been implemented (completed) in the previous financial year (reporting year).

Table B4.1: Past financial year project impact declaration

No.	Project Title and Description	Project Category	Settlements which benefitted	No. Beneficiaries		Impact Declaration
				HH's	Pop	
1	20 ML Reservoir Langerug	Water	Worcester	29 178	113 627	New Housing Development
2	Transhex Pumstation	Sewer	Worcester	29 178	113 627	New Housing Development

B5: Operational & Maintenance Budget and Expenditure

Table B5.1 presents the municipality's water services high level operation and maintenance budget.

OPERATING BUDGET

Table B5.1: Past Financial year O&M Budget and Expenditure

	2018/19		2019/20		2020/21	
			Budget	Actual	Budget	Actual
Water Revenue	R 137 129 572	R 109 200 698	R 122 246 142	R 108 330 896	R 112 627 382	R 119 417 372
Waste Water Revenue	R 146 281 641	R 109 614 878	R 150 732 880	R 128 061 540	R 123 062 868	R 119 912 229
Total Revenue	**R 283 411 213**	**R 218 815 576**	**R 272 979 022**	**R 236 392 436**	**R 235 690 250**	**R 239 329 601**
Expenditure						
Water Expenditure	R 64 044 333	R 64 010 389	R 59 012 276	R 68 672 865	R 75 334 520	R 75 106 709
Waste Water Expenditure	R 65 008 012	R 64 772 456	R 59 153 969	R 66 146 009	R 68 149 628	R 68 096 067
Total Expenditure	**R 129 052 345**	**R 128 782 845**	**R 118 166 245**	**R 134 818 874**	**R 143 484 148**	**R 143 202 776**

It must be noted that the figures above for 2019/2020 financial year is not audited figures.

The repairs and maintenance cost as well as the percentage of the repairs and maintenance for the 2019/2020 financial year is provided in Table B5.2 below.

Table B5.2: Repairs and Maintenance

	2018/19		2019/20		2020/21	
Repairs and Maintenance	**Actual**	**% of O&M**	**Actual**	**% of O&M**	**Actual**	**% of O&M**
Water	R 11 516 584	18.0%	R 10 729 872	15.6%	R 4 816 561	6.4%
Waste Water Management	R 7 784 359	12.0%	R 8 482 089	12.8%	R 4 374 811	6.4%
TOTAL	**R 19 300 943**	**15.0%**	**R 19 211 961**	**14.3%**	**R 9 191 372**	**6.4%**

It must be noted that the figures above for 2019/2020 financial year is not audited figures.

The total percentage for repairs and maintenance for the 2020/2021 financial year is 6,4%.

Section C: Water Services Audit Report

This Section C: Water Services Audit Report represents the requirements as established in the 'Regulations relating to compulsory national standards and measures to conserve water', as issued in terms of sections 9 (1) and 73 (1) (j) of the Water Services Act, 1997.

C1. Quantity of water services provided (Water Balance)

The 'Regulations relating to compulsory national standards and measures to conserve water', requires in section 10 (2) (a), that the water services authority should report on the quantity of water services provided, including at least:

(i) the quantity of water used by each user sector
(ii) the quantity of water provided to the water services institution by another water services institution
(iii) the quantity of effluent received at sewage treatment plants; and
(iv) the quantity of effluent not discharged to sewage treatment plants and approved for use by the water services institution

In addition, the regulations require in section 10 (2) (g), the WSA to report:

(i) the results of the water balance as set out in regulation 11;
(ii) the total quantity of water unaccounted for

Regulation 11 states that: "Within two years of the promulgation of these Regulations, a water service institution must every month –"

(a) measure the quantity of water provided to each supply zone within its supply area;
(b) determine the quantity of unaccounted for water by comparing the measured quantity of water provided to each supply zone with the total measured quantity of water provided to all user connections within that supply zone;
(c) measure the quantity of effluent received at each sewage treatment plant; and
(d) determine the quantity of water supplied but not discharged to sewage treatment plants by comparing the measured quantity of effluent received at all sewage treatment plants with the total measured quantity of water provided to all user connections

In essence, the above pertains to the recording of the annual water balance of the Water Services Authority, as provided for in the WSDP Guide Framework, Topic 7: Conservation and Demand Management.

The information template presented below contains the full water balance as to be reported in terms of Module 1 of the WSDP Guide Framework and appropriately highlighted to reflect compliance to the compulsory national standards regulations.

Table C1.1: Quantity of water services provided / water balance (m^3 per annum)

WSDP Ref. #	Regulations Ref. #	Description	kl/Annum			
			Year 0	Year - 1	Year - 2	Year - 3
			FY2020	FY2019	FY2018	FY2017
		RAW WATER				
7.2.1		Surface water purchased				
7.1 / 7.2.2		Surface water abstracted	14 206 458	15 424 595	13 317 770	12 569 124
7.1 / 7.2.3		Ground water abstracted				
7.2.14		Effluent recycled				
7.2.4		*less* Raw water supplied to others				
7.2.5		**Sub-Total: Raw Water supplied**	**14 206 458**	**15 424 595**	13 317 770	12 569 124
	10.2 (g) (i)	**BULK WATER SUPPLY**				
7.2.6		Volume of water treated	14 206 458	15 424 595	13 317 770	12 569 124
7.2.7	10.2 (a) (ii)	Purchased treated water				
7.2.7A		Ground water not treated				
7.2.6A		*less* Treated water supplied to others				
		Sub-Total: System Input Volume	**14 206 458**	**15 424 595**	13 317 770	12 569 124
		WATER CONSUMPTION				
7.2.8.1		Billed Metered:	10 757 799	10 807 266	11 135 455	10 802 841
	10.2 (a) (i)	Domestic				
	10.2 (a) (i)	Commercial				
	10.2 (a) (i)	Industrial				
	10.2 (a) (i)	etc.				
7.2.8.2		Billed Unmetered				
	10.2 (a) (i)	Domestic				
	10.2 (a) (i)	Commercial				
	10.2 (a) (i)	Industrial				
	10.2 (a) (i)	etc.				
7.2.8.3		Unbilled Metered				
7.2.8.4		Unbilled Unmetered	106 874	23 058	13 339	13 014
	10.2 (g) (i)	**Sub-Total: Authorized consumption**	**10 650 925**	**10 830 324**	**11 148 794**	**10 815 855**
		UNACCOUNTED FOR WATER				
7.3.1		Raw water bulk loss				
7.2.3/7.2.4		Billing losses	106 874	23 058	13 339	13 014
7.2.5		Apparent losses			2 182 315	1 201 839
7.2.5.1		Illegal connections				
7.2.5.2		Inaccurate meters				
7.2.5.3		Data errors	275 843	164 578	344 395	164 919
7.2.6		Real losses	3 065 942	4 429 693	1 824 581	1 588 350
	10.2 (g) (ii)	**Sub-Total: Unaccounted for water**	**3 448 659**	**4 617 329**	**4 364 630**	**2 968 122,00**
		WASTEWATER TREATMENT	FY2020	FY2019	FY2018	FY2017
7.2.9	10.2 (a) (iii)	Total received at WWTW	8 092 050	7 497 766	7 591 702	6 878 377
7.2.11		Total discharged	8 729 597	3 255 061	4 503 228	8 976 001
7.2.13		Returned to environment	8 729 597	3 255 061	4 503 228	8 976 001
7.2.14		Recycled				
	10.2 (a) (iv)	**Quantity of water supplied not discharged to WWTW's**	**637 547**	**4 242 705**	**6 220 469,00**	**2 487 960,00**

C2. Water services delivery profile

The 'Regulations relating to compulsory national standards and measures to conserve water', requires in section 10 (2) (b), that the water services authority should report on the levels of services rendered, including at least:

(i) the number of user connections in each user sector;
(ii) the number of households provided with water through communal water services works
(iii) the number of consumers connected to a water reticulation system where pressures rise above 900 kPA at the consumer connection;
(iv) the number of households with access to basic sanitation services;
(v) the number of new water supply connections made; and
(vi) the number of new sanitation connections made.

In turn, section 10 (2) (c) requires that the number provided above, must also be expressed as a percentage of total number connections or households.

The above information may be sourced from Module 1 of the WSDP Guide Framework, although referenced in different topics. For this reason, the information as required above, is presented in the following sub-sections:

- User connections: addressing regulation item (i), (v) and (vi)
- Residential water services delivery access profile: addressing regulation item (ii) and (iv)
- Residential water services delivery adequacy profile: to align with the WSDP Guide Framework services profile

The details for each of these sub-sections are further discussed below.

C2.1 User connection profile

The user connection profile presented in Tables C2.1.1 and Table C2.1.2 below represents the estimated number of residential- and other consumers which are deemed to be provided with levels of services which can potentially be regulated and billed by the municipality (i.e. house- and yard connections). The number of non-residential users has been determined from the billing records of the municipality.

Table C2.1.1: User connection profile: Water

WSDP Ref. #	Category of users	Wastewater Services						
		Year 0 FY2020		Year - 1 FY2019		Year -2 FY2018		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3,3	Metered: Uncontrolled							
3,3	Metered: Controlled*	22 298	68%	20 860	66%	21 380	70%	0
	Unmetered (flat rate)	0		0		0	0%	0
	Communal water supply	8 769	28%	9 467	30%	7 969	26%	0
	Sub-Total: Residential	**31**	**96%**	**30 327**	**96 %**	**29 349**	**96%**	**0**
	EDUCATION							
3,3	Schools	56	0%	56	0%	56	0%	0
	Tertiary educaton facilities	2	0%	2	0%	2	0%	0
	Sub-Total: Education	**58**	**0%**	**58**	**0%**	**58**	**0%**	**0**
	HEALTH							
3,3	Clinics	14	0%	14	0%	14	0%	0
3,3	Hospitals	4	0%	4	0%	4	0%	0
3,3	Health Centres	0	0%	0	0%	0	0%	0
	Sub-Total: Health	**18**	**0%**	**18**	**0%**	**18**	**0%**	**0**
	INSTITUTIONAL							
	Public Institutions	0	0%		0%		0%	0
3,3	Magistrate Offices	1	0%	1	0%	1	0%	0
3,3	Police Stations	5	0%	5	0%	5	0%	0
3,3	Prisons	2	0%	2	0%	2	0%	0
	etc	0	0%		0%		0%	0
	Sub-Total: Institutional	**18**	**0%**	**8**	**0%**	**8**	**0%**	**0**
	INDUSTRIAL							
3,3	Dry industries	324	1%	324	1%	324	1%	0
3,3	Wet industries	5	0%	5	0%	5	0%	0
	Sub-Total: Industrial	**329**	**1%**	**329**	**1%**	**329**	**1%**	**0**
	COMMERCIAL							
3,3	Businesses	780	3%	780	3%	780	2%	0
3,3	Office Buildings	0	0%		0%		0%	0
	Sub-Total: Commercial	**780**	**3%**	**780**	**3%**	**780**	**2%**	**0**
	MINING							
			0%		0%		0%	0
	Sub-Total: Mining	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**
	OTHER							
	Agriculture	0	0%	0	0%	0	0%	0
	Churches	87	0%	87	0%	87	0%	0
	Unknown	9	0%	9	0%	9	0%	0
	Sub-Total: Other	**96**	**0%**	**96**	**0%**	**96**	**0%**	**0**
	TOTAL	**32 356**		**31 616**	**100%**	**33 281**	**100%**	**0**

Table C2.1.2: User connection profile: Wastewater

WSDP Ref. #	Category of users	Wastewater Services						
		Year 0 FY2020		Year - 1 FY2019		Year - 2 FY2018		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)	-	-	-	-	-	-	-
3,3	Metered: Uncontrolled							
3,3	Metered: Controlled*	23 275	90%	22 726	90%	21 405	90%	
	Unmetered (flat rate)	517	2%	408	2%	385	2%	
	On site sanitation non waterborne	776	3%	700	3%	670	3%	
	Sub-Total: Residential	**24 568**	95%	**23 834**	95%	**22 460**	95%	
	EDUCATION			-	-	-	-	-
3,3	Schools	65	0,27%	65	0,27%	65	0,00%	
	Tertiary education facilities	2	0,01%	2	0,01%	2	0,00%	
	Sub-Total: Education	**67**	**0,28%**	**67**	**0,28%**	**67**	**0,00%**	
	HEALTH			-	-	-	-	-
3,3	Clinics	14	0,06%	14	0,06%	14	0,00%	
3,3	Hospitals	4	0,02%	4	0,02%	4	0,00%	
3,3	Health Centres	0	0,00%	0	0,00%	0	0,00%	
	Sub-Total: Health	**18**	**0,08%**	**18**	**0,08%**	**18**	**0,00%**	
	INSTITUTIONAL			-	-	-	-	-
	Public Institutions							
3,3	Magistrate Offices	1	0,00%	1	0,00%	1	0,00%	
3,3	Police Stations	5	0,02%	5	0,02%	5	0,00%	
3,3	Prisons	2	0,01%	2	0,01%	2	0,00%	
	etc.		0,00%		0,00%		0,00%	
	Sub-Total: Institutional	**8**	**0,03%**	**8**	**0,03%**	**8**	**0,00%**	
	INDUSTRIAL			-	-	-	-	-
3,3	Dry industries	324	1%	324	1%	324	1%	
3,3	Wet industries	5	0%	5	0%	5	0%	
	Sub-Total: Industrial	**329**	**1%**	**329**	**1%**	**329**	**1%**	
	COMMERCIAL			-	-	-	-	-
3,3	Businesses	780		780	3%	780	3%	
3,3	Office Buildings	0%		0%	0%		0%	
	Sub-Total: Commercial	**780**		**780**	**3%**	**780**	**3%**	
	MINING			-	-	-	-	-
		0	0%	0%	0%		0%	
	Sub-Total: Mining	**0**	**0**	**0**	**0%**	**0**	**0%**	
	OTHER			-	-	-	-	-
	Agriculture	0	0%	0	0%	0	0%	
	Churches	87	0%	87	0%	87	0%	
	Unknown	9	0,038%	9	0,038%	9	0,000%	
	Sub-Total: Other	**96**	**0,404%**	**96**	**0,404%**	**96**	**0,000%**	
	TOTAL	**25 857**	**100%**	**25 132**	**100%**	**26 462**	**100%**	

C2.2 Residential water services delivery access profile

The residential water services delivery access profile is presented below and is aligned with the format proposed for the Municipal Annual Report as contemplated in the MFMA. It is emphasized that this access profile does not consider quality- or adequacy of services as presented in the next section. It also has to be noted that the figures below indicate the service level within the urban edge only. There are a number of households outside the urban edge such as farms that are not serviced by the municipality. No detail information on the level of service is available for these households. The census 2011 does indicate there are a number of households outside the urban edge that do not have access to adequate water and sanitation services. The provision of services to these areas however fall outside the mandate of the Municipality. Reporting is therefore done on the areas within the urban edge.

Table C2.2.1: Residential water services delivery access profile: Water

Census Category	Description	Year 0		Year -1		Year -2	
		FY2020		FY2019		FY2018	
		Nr	%	Nr	%	Nr	%
	WATER (ABOVE MIN LEVEL)						
Piped (tap) water inside dwelling/institution	House connections	22 298	69%	20 860	69%	21 380	73%
Piped (tap) water inside yard	Yard connections	0	0%	0	0%	0	0%
Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Standpipe connection < 200 m	9 521	27%	9 467	31%	7 969	27%
	Sub-Total: Minimum Serivce Level and Above	**31 819**	100%	**30 327**	100%	**29 349**	100%
	WATER (BELOW MIN LEVEL)						
Piped (tap) water on community stand: distance between 200m and 500m from dwelling/institution	Standpipe connection: > 200 m < 500 m			0	0%	0	
Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling /institution	Standpipe connection: > 500 m < 1 000 m	0	0	0		0	
Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	Standpipe connection: > 1 000 m			0		0	
No access to piped (tap) water	No services	0		0	0%	0	0%
	Sub-Total: Below Minimum Service Level	**0**		**0**	**0%**	**0**	**0%**
	Total number of households	**31 819**	**100%**	**30 327**	**100%**	**29 349**	**100%**

Table C2.2.2: Residential water services delivery access profile: Sanitation

Census Category	Description	Year 0		Year -1		Year -2	
		FY2020		FY2019		FY2018	
		Nr	%	Nr	%	Nr	%
	SANITATION (ABOVE MIN LEVEL)						
Flush toilet (connected to sewerage system)	Waterborne	23 275	95%	22 726	95%	21 405	95%
	Waterborne: Low Flush	0		0	0%	0	0%
Flush toilet (with septic tank)	Septic tanks / Conservancy	415	2%	408	2%	385	2%
Chemical toilet	Non-waterborne (above min. service level)	890	3%	700	3%	670	3%
Pit toilet with ventilation (VIP)		0		0	0%	0	0%
Other		0		0	0%	0	0%
	Sub-Total: Minimum Serivce Level and Above	**24 850**	**100%**	**23 834**	**100%**	**22 460**	**100%**
	SANITATION (BELOW MIN LEVEL)						
Pit toilet without ventilation	Pit toilet	0	0%	0	0%	0	0%
Bucket toilet	Bucket toilet	0	0%	0	0%	0	0%
Other toilet provision (below min. service level	Other	0	0%	0	0%	0	0%
No toilet provisions	No services	0	0%	0	0%	0	0%
	Sub-Total: Below Minimum Service Level	**0**	**0%**	**0**	**0%**	**0**	**0%**
	Total number of households	**24 850**	**0%**	**22 460**	**100%**	**22 460**	**100%**

C2.3 Residential water services delivery adequacy profile

The residential water services delivery adequacy profile as presented below aligns with the service level category of the WSDP Guide Framework and considers the water resources-, operational- and infrastructure needs of the water services provider by the Breede Valley Municipality. In essence, the above, paves the way for the identification of projects to address the relevant needs. When interpreting the adequacy profile, it should be recognised that a specific settlement that are serviced by the municipality, may have more than one need and hence, that provision is made for double counting of households, where such duplication needs have been identified. It should also be emphasized that where areas are serviced privately such as households residing on farms, that the adequacy service level has been identified as Adequate: Informal as per the guidelines for the DWA Reference Framework, meaning that any infrastructure development needs (as may be evident from the access profile) is not assigned for implementation by the Breede Valley Municipality.

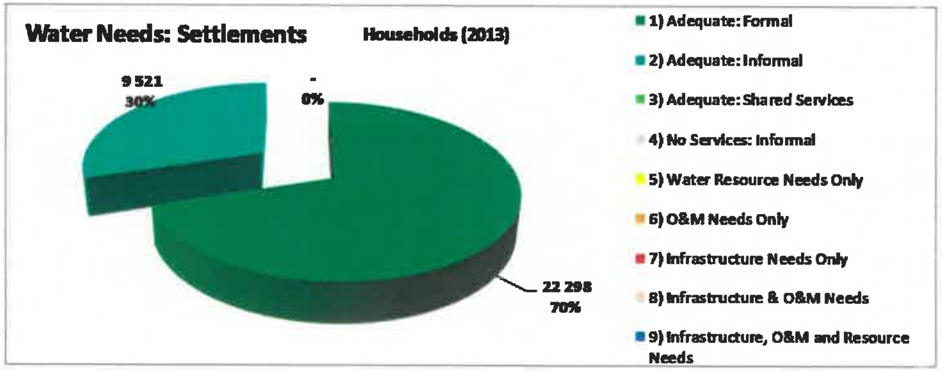
It must be noted that the adequacy profile is based on levels of service for the areas within the urban edge and aligned with the Department of Water Affairs, reference framework figures. The adequacy profile represents a WSA perspective and hence, includes all wards located within the Breede Valley municipal boundary.

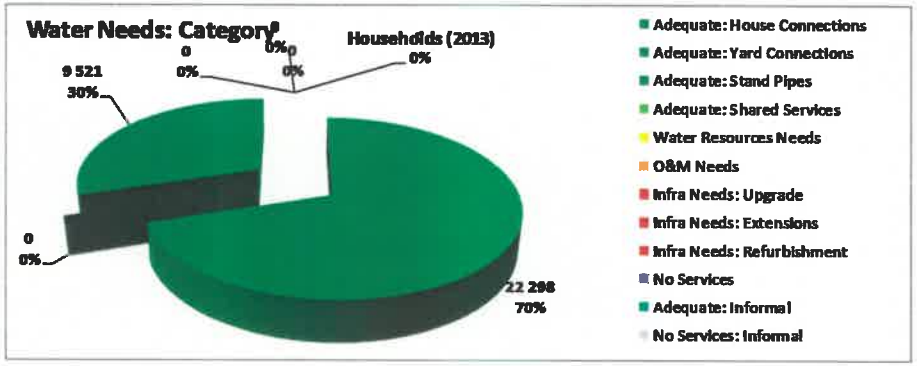
The Breede Valley Municipality's water services adequacy profile contains the following needs:

1. Infrastructure- and services needs to be extended in informal settlements of Rawsonville, Avian Park, Zweletemba, Sand Hills, Orchards and Touws River.
2. There is a high need of refurbishment for both the water- and sewer infrastructure.

Table C2.3 (a): Residential water services delivery adequacy profile (Water)

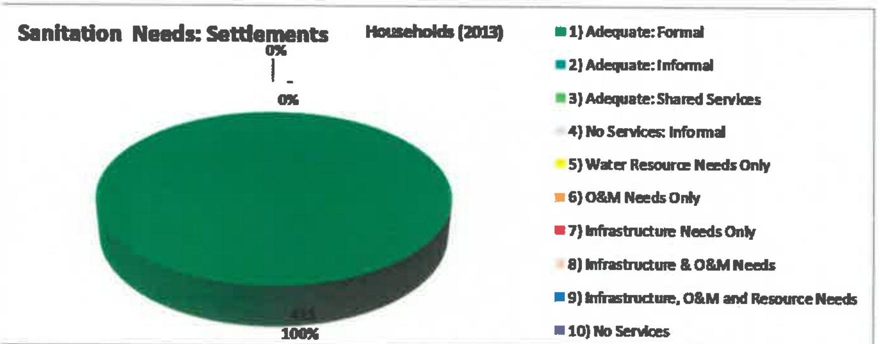
Water Categorisation	Number of settlements	FORMAL																				INFORMAL			
		Adequate								Water Resource needs		O & M Needs		Infrastructure Needs						No services		Adequate		No services	
		House Connections		Yard Connections		Stand Pipes		Shared Services						Upgrades		Extensions		Refurbishment							
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
1	21	22 298	100%																						
2	3					9 521																			
3	12																								
4	0																								
5	0																								
6	0																								
7	12																								
8	0																								
9	0																								
10	0																								
Total Household Interventions required		22 298		0		9 521		0		0		0		0		0		0		0		0		0	





1	Adequate	3	Adequate: Shared services	5	Water Resources Needs **Only**	7	Infrastructure Needs **Only**	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Formal	6	O & M Needs **Only**	8	Infrastructure& O&M needs	10	No Services

Water Categorisation	Number of settlements	FORMAL																						INFORMAL			
		Adequate										Water Resource needs		O & M Needs		Infrastructure Needs						No services		Adequate		No services	
		Waterborne		Waterborne Low flush		Septic Tank/ Conservancy		None Waterborne		Shared Services						Upgrades		Extensions		Refurbishment							
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
1	21	23 275	95%			415	2%																				
2	0																										
3	0																										
4	0																										
5	0																										
6	0																										
7	4																										
8	0																										
9	0																										
10	4																										
Total Household Interventions required		23 275		0		415		0		0		0		0		0		0		0		0		0		0	



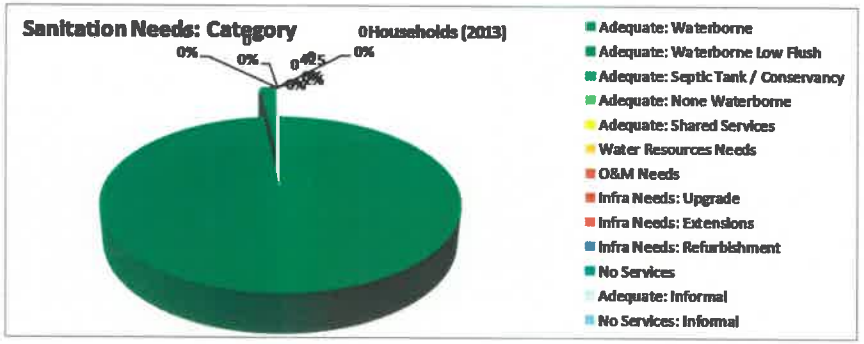


Table C2.3 water adequacy

1	Adequate	3	Adequate: Shared services	5	Water Resources Needs **Only**	7	Infrastructure Needs **Only**	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Formal	6	O & M Needs **Only**	8	Infrastructure & O&M needs	10	No Services

(b): Residential services delivery profile (Sanitation)

C3. Cost recovery and free basic services

The 'Regulations relating to compulsory national standards and measures to conserve water', requires in section 10 (2) (d), that the water services authority should report on cost recovery, including at least:

(i) the tariff structures for each user sector;
(ii) the income collected expressed as a percentage of total costs for water services provided; and
(iii) unrecovered charges expressed as a percentage of total costs for water services provided.

In turn, section 10 (2) (e) requires the water services authority to report on meter installation and meter testing, including at least:

(i) the number of new meters installed at consumer installations; and
(ii) the number of meters tested and the number of meters replaced as expressed as a percentage of the total number of meters installed at consumer connections.

The required information, is presented in the following sub-sections:

- Tariffs: addressing regulation item 10 (2) (d) (i)
- Metering, Billing and Free Basic Services: addressing regulation items 10(2) (e) (i) and (ii) as well as regulation item 10(2) (b) (v)
- Revenue collection and cost recovery: addressing regulation items 10 (2) (d) (ii) and (iii)

The details for each of these sub-sections are further discussed below.

C3.1 Tariffs

The record of water services tariffs over the past three years are presented in the table C3.1.1 and C3.1.2 below as promulgated by the water services authority in terms of each charge category. Provision is made to reference the user sector to which the charges pertain as well as the Unit of measurement example R/customer/month or R/kl. Detail of the complete approved tariff structure is available on request or can be downloaded at http://www.bvm.gov.za/bvmweb/.

Table C3.1.1: Tariffs for water

No	Category	Sector	Unit	Tariff (VAT excluded)			% increase Year 0
				Year 0	Year - 1	Year - 2	
				FY2020	FY2019	FY2018	
1,1	BASIC CHARGES						
	Residential		R/c/m	43.48	34.78	0,00	25.01%
	Sport clubs/ Educational/ Institutions and Churches		R/c/m	43.48	34.78	26,09	25.01%
	Handel / Business/Commerce		R/c/m	217.39	173.91	121,74	25.01%
	Connection greater than- 149 mm		R/c/m	260.87	217.39	143,48	20.00%
2	VOLUME CHARGES						
	0 - 6 Kl	Residential	R/Kl	4.52	4,26	4,02	6,00%
	7 - 20 Kl	Residential	R/Kl	7.46	7,46	7,04	6,00%
	21 - 70 Kl	Residential	R/Kl	12.79	12,79	9,05	6,00%
	71 + Kl	Residential	R/Kl	23.44	23,44	22,11	6,00%
	0 - 20 Kl	Commercial	R/Kl	16.60	10,00	9,43	6,00%
	21 - 40 Kl	Commercial	R/Kl	11.46	10,81	10,20	6,00%
	41 - 60 Kl	Commercial	R/Kl	12.58	11,87	11,20	6,00%
	61 - 100 Kl	Commercial	R/Kl	14.10	13,30	12,55	6,00%
	101 - 150 Kl	Commercial	R/Kl	14.69	13,85	13,07	6,00%
	151 - 300 Kl	Commercial	R/Kl	SCRAP	13,85	12,24	N/A
	301 - 600 Kl	Commercial	R/Kl	SCRAP	13,85	10,51	N/A
		Sport Clubs	R/Kl	4.52	4,26	4,02	6,00%
	Excluding private schools/colleges	Educational (schools and Colleges)	R/Kl	4.52	4,26	4,02	6,00%
		Welfare and Old Age Homes	R/Kl	4.52	4,26	4.02	6,00%
	Excludes rectory if consumption metered separately	Churches	R/Kl	4.52	4,26	4,02	6,00%
		Municipal	R/Kl	4.52	4,26	4,02	6,00%
		Fire Fighting	R/Kl	4.52	4,26	4,02	6,00%
	IRRIGATION						
	Purified		R/Kl	N/A	N/A	9,05	6,00
	Non-purified		R/Kl	1.47	1,39	1,31	6.00

Note: All cost excluding VAT

Table C3.1.2: Tariffs for wastewater

No	Category	Sector	Unit			Tariff (VAT excluded)			% increase Year 0
				Year 0	Year - 1	Year - 2			
				FY2020	FY2019	FY2018			
	BASIC CHARGES								
	Per month			295.65	278,26	260,87			6,25
	Annual			3547.83	3130,43	3130,43			6,25
	Per erf/residential unit/connection								
	1. Including SPCA and flats (per flat).								
	2. Excluding residential homes used for home industries or career practices.								
	3. Additional elec meter = additional unit , unless it can be proven that it is not for residential purposes								
	Residential homes used for home industries or career practices								
	Annual								
	Commercial								
	Monthly per connection, Per kiloliter water consumed For the same month in which water bill is raised)								
	Up to 800 kiloliter: Per Kiloliter			11.13	10,50	9,34			6.00
	More than 800 kiloliter: Per Kiloliter			6.69	6,31	5,61			6.00
	to a maximum of 1600 kiloliter/kiloliter								
	With minimum of								
	Minimum per connection per office, shop, etc.								
	Offices, smaller than 36 m^2			343.48	321,74	263,16			6.76
	Ander / Other			1313.04	1313,04	1162,28			0
	Educational (crèche's, schools and colleges)								
	Monthly per connection			113.04	105,22	105,22			7.44
	Office				-				
	Sport clubs and Educational (crèche's, schools and colleges)								
	Monthly per connection			113.04	105,22	92,98			7.44
	Churches; Places of worship; Institutions and Old Age Homes								
	Includes rectory if on same erf as the church)								
	Monthly per connection			113.04	105,22	92,98			7.44
	Municipal (Departmental)								
	Monthly per connection			113.04	105,22	92,98			7.44
	Availability Funds								
	Monthly per erf								
	Residential			221.74	208,70	184.21			6.25
	Commercial			673.91	634,78	561.40			6.16
	INDUSTRIAL EFFLUENT								
	Determined with a formula at the end of the financial year.			5.64	5,32				6,00

Note: All cost excluding VAT

C3.2 Metering, Billing and Free Basic Services

An overview of the Breede Valley Municipality's metering and billing information is presented in Table C3.2 and highlights that 100 % of the house- and dwelling connections are currently metered and billed. Due to the structuring of the municipal water services tariffs, all consumers receive free basic water services of 6 kl/ month.

Table C3.2: Overview of metering, billing and Free Basic Services

Regulations Ref. #	Description	Unit	Year 0	Year - 1	Year - 2
			FY2020	FY2019	FY2018
	UNITS SUPPLIED (as per water services access profile)	-	-	-	
10.2 (b) (i)	Household water connections (house and yard connections)	Nr	22 298	20 860	20 906
10.2 (b) (iv)	Household sewerage connections	Nr	23 275	22 726	20 458
	METERING	-			-
	Metered Water Connections (aligned with Billing System)				
	Residential	Nr	22 298	20 860	20 906
	Commercial / Business	Nr	794	794	794
	Industrial	Nr	26	26	26
	Government / Institutional	Nr	819	819	819
	etc.	Nr			
	Sub-Total: Metered Water Connections	**Nr**	**23 937**	**22 499**	**22 545**
	Proportion of metered connections (residential)	%			100%
	Total number of meters	Nr	22 298	20 860	20 610
10.2 (b) (vi)	Total number of new connections (aligned with Table C.2.1)	Nr		110	218
10.2 (e) (i)	Total number of new meters installed	Nr		110	218
	Proportion of new connections, metered	%		100%	100%
	Number of meters tested	Nr			
10.2 (e) (ii)	Proportion of meters tested to total number of meters	%		0	0
	Number of meters replaced	Nr			
10.2 (e) (ii)	Proportion of meters replaced to total number of meters	%		0	0
	BILLING	-		-	-
	Customer billing (water and sewerage)				
	Residential	Nr	22 298	20 860	20 860
	Commercial / Business	Nr	794	794	794
	Industrial	Nr	26	26	26
	Government / Institutional	Nr	819	819	819
	etc.	Nr			
	Sub-Total: Customers billed	Nr	23 937	22 499	22 545
	Proportion of bills to metered connections	%	100%	100%	103,9%
	Residential	%	100%	100%	100,0%
	Commercial / Business	%	100%	100%	100,0%
	Industrial	%	100%	100%	100,0%
	Government / Institutional	%	0,0%	0,0%	0,0%
	etc.	%	100%	100%	100,0%
	FREE BASIC SERVICES	-		-	-
	Nr customers receiving:				
	Free Basic Water	Nr		8 891	7 860
10.2 (b) (v)	Free Basic Sanitation	Nr		8 891	7 860
	Proportion of Free Basic Services				
	Water	%		43%	38%
	Sewerage	%		39%	43%

C3.3 Revenue collection and cost recovery

The Breede Valley Municipality's revenue collection and cost recovery on water services rendered by the municipality is summarized below and has been sourced from the from the municipality's Annual Financial Statements.

Table C3.3: Overview of water services revenue collection and cost recovery

Regulations Ref. #	Description	Year 0	Year - 1	Year - 2
		FY2020	FY2019	FY2018
	INCOME	R'000	R'000	R'000
	Billed			
	Water reticulation / provision	R 119 417	R 108 331	R 109 201
	Sewerage / wastewater	R 119 912	R 128 062	R 109 615
	Sub-Total: Billed	**R 239 330**	**R 236 392**	**R 218 816**
	Collections			
	Water reticulation / provision			
	Sewerage / wastewater			
	Sub-Total: Collections	**R 0**	**R 0**	**R 0**
	Equitable share income			
	Water reticulation / provision	R 21 895	R 16 393	R 15 140
	Sewerage / wastewater	R 41 971	R 31 427	R 29 025
	Sub-Total: Equitable share income	**R 63 866**	**R 47 821**	**R 44 165**
	EXPENDITURE (O&M)	R'000	R'000	R'000
	Water services	R 75 107	R 68 673	R 64 010
	Sewerage / wastewater services	R 68 096	R 66 146	R 64 772
	Total: Water Services O&M	**R 143 203**	**R 134 819**	**R 128 783**
	COST RECOVERY ANALYSIS / RATIO'S	%	%	%
10.2 (d) (ii)	**Billed as % of Cost**			
	Water	159%	158%	171%
	Sewerage	176%	194%	169%
	Total	**167%**	**175%**	**170%**
10.2 (d) (iii)	**Unrecovered as % of Cost**			
	Water services	159%	158%	171%
	Sewerage / wastewater services	176%	194%	169%
	Total	**167%**	**175%**	**170%**

C4. Water quality

The 'Regulations relating to Compulsory National Standards and Measures to Conserve Water' determines that the water services audit to be included in the annual report on the implementation of its water services development plan, should include:

> "10. (f) the water quality sampling programme contemplated in regulation 5(1), the results of the comparison set out in regulation 5(3) and any occurrence reported in compliance with regulation 5(4)"

The required information is present in the following sections:

1. The water quality sampling programme
2. Water quality compliance in terms of SANS 241
3. Incident reporting with respect to water quality exceedances posing a health risk

It should be recognized that the above information is reported in terms of the Blue Drop Certification Programme.

C4.1 Sampling programme

As is presented in Table C4.1.1 below, the Breede Valley Municipality has implemented a comprehensive drinking water sampling programme for its formal water supply schemes. A total of 5 supply systems are monitored on a monthly basis. The pH and residual chlorine levels are however monitored on a daily basis at the each of the water treatment plants.

Table C4.1.1: Sampling programme for potable water quality

Treated Water Schemes								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Stettynskloof WTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Raw Water Source	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	30
3	Langerug Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	Preloads Reservoir	Yes	Yes	Yes	Iron	30	30	30
5	Avian Park	No	No	Yes	Sulphate	30	30	30
6	Johnsons Park	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7	Lower Town	Yes	Yes	Yes	TDS	30	30	30
8	APL Cartons	Yes	Yes	Yes	Colour	30	30	30
9	Suggett Street	Yes	Yes	Yes	Manganese	30	30	30
10	Town Centre	Yes	Yes	Yes	Electrical Conductivity	30	30	30
11	Worc West (NG Kerk)	Yes	Yes	Yes	Calcium	30	30	30
12	Upper Town (Somerset Park)	Yes	Yes	Yes	Chloride	30	30	30
13	Zwelenthemba	Yes	Yes	Yes	**SANS 241 Operational Tests**			
					pH	30	30	30
					Residual Chlorine	30	30	30
					Turbidity	30	30	30

Treated Water Schemes								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	De Koppen (Fairy Glen) WTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Raw Water Source	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	30
3	De Koppen Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	Brewelskloof	Yes	Yes	Yes	Iron	30	30	30
5	Fairway Heights	Yes	Yes	Yes	Sulphate	30	30	30
6	Panorama	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7					TDS	30	30	30
8					Colour	30	30	30
9					Manganese	30	30	30

Treated Water Schemes								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Bokrivier (Towusrivier) WTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Raw Water Source	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	30
3	Topkamp Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	Steenvliet Reservoir	Yes	Yes	Yes	Iron	30	30	30
5	Komkyk Motors	Yes	Yes	Yes	Sulphate	30	30	30
6	Clinic	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7	Hopland	Yes	Yes	Yes	TDS	30	30	30
8	Municipal Office	Yes	Yes	Yes	Colour	30	30	30
9	Plein Street	Yes	Yes	Yes	Manganese	30	30	30
10	Populier Street	Yes	Yes	Yes	Electrical Conductivity	30	30	30
11	Sewage Works Drinking Water Tap	Yes	Yes	Yes	Calcium	30	30	30
12	Steenvliet Library	Yes	Yes	Yes	Chloride	30	30	30
13					**SANS 241 Operational Tests**			
					pH	30	30	30
					Residual Chlorine	30	30	30
					Turbidity	30	30	30

Treated Water Schemes								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Rawsoville Town (part of Stettynskloof WTW)	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Raw Water Source	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	30
3	Rawsonville Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	De Nova	Yes	Yes	Yes	Iron	30	30	30
5	Office (Middedorp)	Yes	Yes	Yes	Sulphate	30	30	30
6	School	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7	SAPS	Yes	Yes	Yes	TDS	30	30	30
8					Colour	30	30	30
9					Manganese	30	30	30
10					Electrical Conductivity	30	30	30
11					Calcium	30	30	30
12					Chloride	30	30	30
13					**SANS 241 Operational Tests**			
					pH	30	30	30
					Residual Chlorine	30	30	30
					Turbidity	30	30	30

Treated Water Schemes								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	De Doorns WTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Raw Water Source	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	30
3	Stofland Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	Oppiekop Reservoir	Yes	Yes	Yes	Iron	30	30	30
5	Clinic	Yes	Yes	Yes	Sulphate	30	30	30
6	Office (Middedorp)	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7	Orchard	Yes	Yes	Yes	TDS	30	30	30
8	Stofland House	Yes	Yes	Yes	Colour	30	30	30
9	Sandhills	Yes	Yes	Yes	Manganese	30	30	30
10	Sewage Works Drinking Water Tap	Yes	Yes	Yes	Electrical Conductivity	30	30	30
11	Weltevrede House	Yes	Yes	Yes	Calcium	30	30	30
12	School	Yes	Yes	Yes	Chloride	30	30	30
13					**SANS 241 Operational Tests**			
					pH	30	30	30
					Residual Chlorine	30	30	30
					Turbidity	30	30	30

The Municipality is responsible for the following systems:

- Worcester WWTW
- Rawsonsville WWTW
- De Doorns WWTW
- Touwsrivier WWTW

Table C4.1.2: Sampling programme for wastewater effluent quality

Registered Sites		Active			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	De Doorns WWTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Final Effluent (old works)	Yes	Yes	Yes	**Microbiological**			
2	Final Effluent (new works)	Yes	Yes	Yes	*E.coli*	7	7	7
3					**Chemical**			
4					Ammonia	7	7	7
5					COD	7	7	7
6					Nitrate	7	7	7
7					Ortho-Phosphate	7	7	7
8					**Operational**			
9					**Physical**			
10					pH	7	7	7
11					Electrical Conductivity	7	7	7
12					Suspendid Solids	7	7	7
Registered Sites		**Active**			**Determinands per Category**	**Frequency (days)**		
		Year 0	**Year-1**	**Year-2**		**Year 0**	**Year-1**	**Year-2**
#	**Rawsonville WWTW**	**2020-2021**	**2019-2020**	**2018-2019**		**2020-2021**	**2019-2020**	**2018-2019**
1	Final Effluent	Yes	Yes	Yes	**Microbiological**			
2					*E.coli*	7	7	7
3					**Chemical**			
4					Ammonia	7	7	7
5					COD	7	7	7
6					Nitrate	7	7	7
7					Ortho-Phosphate	7	7	7
8					**Operational**			
9					**Physical**			
10					pH	7	7	7
11					Electrical Conductivity	7	7	7
12					Suspendid Solids	7	7	7
Registered Sites		**Active**			**Determinands per Category**	**Frequency (days)**		
		Year 0	**Year-1**	**Year-2**		**Year 0**	**Year-1**	**Year-2**
#	**Touwsrivier WWTW**	**2020-2021**	**2019-2020**	**2018-2019**		**2020-2021**	**2019-2020**	**2018-2019**
1	Final Effluent	Yes	Yes	Yes	**Microbiological**			
2					*E.coli*	7	7	7
3					**Chemical**			
4					Ammonia	7	7	7
5					COD	7	7	7
6					Nitrate	7	7	7
7					Ortho-Phosphate	7	7	7
8					**Operational**			
9					**Physical**			
10					pH	7	7	7
11					Electrical Conductivity	7	7	7
12					Suspendid Solids	7	7	7

Registered Sites		Active			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Worcester WWTW	2020-2021	2019-2020	2018-2019		2020-2021	2019-2020	2018-2019
1	Final Effluent	Yes	Yes	Yes	**Microbiological**			
2					*E.coli*	7	7	7
3					**Chemical**			
4					Ammonia	7	7	7
5					COD	7	7	7
6					Nitrate	7	7	7
7					Ortho-Phosphate	7	7	7
8					**Operational**			
9					**Physical**			
10					pH	7	7	7
11					Electrical Conductivity	7	7	7
12					Suspendid Solids	7	7	7

An overview of Breede Valley Municipality's compliance to its water- and sewer sampling programmes is presented in the tables below:

Table C4.1.3: Compliance to the sampling programme (s)

Measurable / Enabling Factor	Unit	Year 0				Year-1				Year-2			
		2020-2021				2019-2020				2018-2019			
		M	C	P	O	M	C	P	O	M	C	P	O
Potable Water Quality													
Supply system submissions	Nr registered	4	4	4		4	4	4		4	4	4	
	Nr submitted*	4	4	4		4	4	4		4	4	4	
	Annual %	100%	100%	100%		100%	100%	100%		100%	100%	100%	
Monitoring compliance	Average %	96.5%	#####	90.6%		99.9%	99.9%	####		99.9%	99.9%	99.9%	
Data Credibility	Average %	99.9%	99.9%	87.5%		99.9%	99.9%	####		99.9%	99.9%	87.5%	
BDS In-Time Submission	Annual %	88.8%	93.1%	93.1%		47.5%	50.0%	####		91.9%	78.6%	77.9%	
Wastewater Quality													
Monitoring compliance	Average %	95.7%				99.9%				99.9%			
Operational monitoring compliance	Average %	tbd				tbd				tbd			

Legend **M:** Microbiological; **C:** Chemical; **P:** Physical; **O:** Operational

Table C4.1.4: Water quality monitoring overview from WSDP Guide Framework perspective

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 2020-2021	Year - 1 2019-2020	Year - 2 2018-2019
6,3	**Water Supply and Quality**				
6.3.2	Process Control in place	yes/total WTW in %	Yes	Yes	Yes
6.3.3	Monitoring Programme in place	yes/total schemes in %	100%	100%	100%
6.3.4	Sample Analysis Credibility	Average %	99.9%	95.8%	99.9%
9,2	**Monitoring**				
9.2.1	% of water abstracted monitored: Surface water	Q monitored / Q abstracted in %	100%	100%	100%
9.2.2	% of water abstracted monitored: Ground water	Q monitored / Q abstracted in %	<1%	<1%	<1%
9.2.3	% of water abstracted monitored: External Sources (Bulk purchase)	Q monitored own / Q purchased in %	n/a	n/a	n/a
9.2.6	Water quality for formal schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	frequency	3	3	3
9.2.7	Water quality for rudimentary schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	frequency	n/a	n/a	n/a
9.2.9	Is the number sufficient in accordance to the SANS241 requirements?	yes/no	Yes	Yes	Yes
9,3	**Water Quality**				
	Is there a water quality plan in place?	yes/no	Yes	Yes	Yes
9.3.1	Reporting on quality of water taken from source: urban & rural	yes/total schemes in %	100%	100%	100%
9.3.5	Quality of water taken from source: urban - % monitored by WSA self?	monitored by WSA / total schemes in %	100%	100%	100%
9.3.6	Quality of water taken from source: rural - % monitored by WSA self?	monitored by WSA / total schemes in %	100%	100%	100%
9.3.9	Are these results available in electronic format?	Yes/No	Yes	Yes	Yes

Table C4.1.5: Wastewater quality monitoring overview from WSDP Guide Framework perspective

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0	Year - 1	Year - 2
			2020-2021	2019-2020	2018-2019
5.3.1	**Monitoring and Sample Failure**				
5.3.1.1	Monitoring: % of tests performed as required by general limits /special limits/ license requirements (Average % over previous 12 months)	Annual %	100%	100%	100%
5.3.1.2	Operational: % of tests performed as required by general limits /special limits/ license requirements (Average % over previous 12 months)	Annual %	tbd	tbd	tbd
6,4	**Wastewater Supply and Quality**	-	-	-	-
6.4.2	Process Control in place	yes/total WWTW in %	100%	100%	100%
6.4.3	Monitoring Programme in place	yes/total WWTW in %	100%	100%	100%
6.4.4	Sample Analysis Credibility	Average %	95%	95%	95%
9,2	**Monitoring**				
9.2.10	Is the number sufficient in accordance to licences?	yes/no	Yes	Yes	Yes
9,3	**Water Quality**				
	Is there a water quality plan in place?	yes/no	Yes	Yes	Yes
9.3.2	Quality of water returned to the resource: urban	yes/total WWTW in %	100%	100%	100%
9.3.3	Quality of water returned to the resource: rural	yes/total WWTW in %	n/a	n/a	n/a
9.3.7	Quality of water returned to resource: urban - % monitored by WSA self?	monitored by WSA / urban WWTW in %	100%	100%	100%
9.3.8	Quality of water returned to resource: rural - % monitored by WSA self?	monitored by WSA / rural WWTW in %	n/a	n/a	n/a
9.3.9	Are these results available in electronic format?	yes/no	Yes	Yes	Yes

C4.2 Water quality compliance

The Blue Drop performance of the Breede Valley Municipality is summarised in Table C4.2.1 below.

Table C4.2.1: Overview of water quality compliance

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0				Year-1				Year-2			
			2020-2021				2019-2020				2018-2019			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results per the Blue Drop System													
n/a	Analysis compliance	Total	906	2172	4195		1008	2056	2570		1090	2180	2725	
n/a		Nr Failures	1	0	224		1	1	206		08	6	210	
n/a		Compliance %	99.9.%	100%	94.7%		99.9%	99.9%	91.9%		100%	99.7%	92.3%	
n/a	Samples frequency	Total	891	1402	525		903	545	545		1090	545	545	
n/a		Nr Failures	1	0	224		1	0	206		0	8	207	
n/a		Compliance %	99,9%	100%	57.3%		99.9%	100%	62.2%		100%	98.5%	62.0%	
n/a	Sites compliance	Total	566	527	527		557	543	543		545	545	545	
n/a		Nr Failures	1	0	224		1	0	206		0	8	207	
n/a		Compliance %	99.9%	100%	57.5		99.8%	100%	62.0%		100	98.5%	62.0%	
6,3	**Water Supply and Quality**													
6.3.6	Blue Drop Status	certified per BDS	**not known**				**not known**				**not known**			
9,3	**Water Quality**													
9.3.10	% Time (days) within SANS 241 standards per year	Average of sites compliance %	85.7%				87.3%				86.8%			

Legend **M**: Microbiological; **C**: Chemical; **P**: Physical; **O**: Operational

The Green Drop performance of the Breede Valley Municipality is summarised in Table C4.2.2 below.

Table C4.2.2: Overview of wastewater quality compliance

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0				Year-1				Year-2			
			2020-2021				2019-2020				2018-2019			
			M	C	P	O	M	C	P	O	M	C	P	C
	Results per the Green Drop System													
n/a	Regulatory compliance	Total	221	562	785		253	1009	759		259	1036	777	
n/a		Nr Failures	13	83	115		32	278	88		26	153	55	
n/a		Compliance %	94.1%	85.2%	85.4%		84.7%	72.5%	88.4%		91.0%	85.2%	92.9%	
n/a	Operational compliance	Total	tbd	tbd	tbd		tbd	tbd	tbd		tbd	tbd	tbd	
n/a		Nr Failures	tbd	tbd	tbd		tbd	tbd	tbd		tbd	tbd	tbd	
n/a		Compliance %	tbd	tbd	tbd		tbd	tbd	tbd		tbd	tbd	tbd	
5.3.1	**Monitoring and Sample Failure**													
5.3.1.3 5.3.1.4 5.3.1.5	Average % of sample failure	Failure %	11.8%				17.2%				10.3%			
6,3	**Water Supply and Quality**													
6.4.6	Green Drop Status	certified per GDS	No Assessment				No Assessment				No Assessment			

Legend **M**: Microbiological; **C**: Chemical; **P**: Physical; **O**: Operational

C4.3 Incident management

Another aspect to water quality is the level of institutional response to water quality failure incidents- herein presented as incident management. The Breede Valley Municipality performance is summarised in Table C4.3.1 below.

Table C4.3.1: Incident management and reporting overview

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0	Year - 1	Year - 2
			2020-2021	2019-2020	2018-2019
6,3	**Water Supply and Quality**				
6.3.1	Incident Management Protocol in place	yes/total schemes in %	100%	100%	100%
6.3.5	Failure Response Management in place	yes/total schemes in %	100%	100%	100%
6,4	**Waste Water Supply and Quality**				
6.4.1	Incident Management Protocol in place	yes/total schemes in %	100%	100%	100%
6.4.5	Failure Response Management in place	yes/total schemes in %	100%	100%	100%

As is evident from Table C4.3.2 below, no significant failures occurred during the past three years.

Table C4.3.2: Water quality incident reporting compliance (health oriented)

Measurable / Enabling Factor	Unit	Year 0				Year-1				Year-2			
		2020-2021				2019-2020				2018-2019			
		Acute Health - 1 Micriobiological	Acute Health - 1 Chemical	Acute Health - 2 Micriobiological	Chronic Health	Acute Health - 1 Micriobiological	Acute Health - 1 Chemical	Acute Health - 2 Micriobiological	Chronic Health	Acute Health - 1 Micriobiological	Acute Health - 1 Chemical	Acute Health - 2 Micriobiological	Chronic Health
Failures in terms of Analysis	Total nr	906	525			1008	550			1090	545		
	Nr of failures	1	0			1	0			0	8		
	Failure %	0,1%	0%			0.1%	0%			0%	0.7%		
	Nr reported	1	0			1	0			0	8		
	Reported % of failure	0,1%	0%			0.1%	0%			0%	0.7%		
Failures in terms of Samples	Total	891	525			1008	550			1090	545		
	Nr of failures	1	0			1	0			0	8		
	Failure %	0,1%	0%			0.1%	0%			0%	1.5%		
	Nr reported	1	0			1	0			0	8		
	Reported % of failure	0,1%	0%			0.1%	0%			0	1.5%		
Failures in terms of Sites	Total	566	525			557	550			545	545		
	Nr of failures	1	0			1	0			0	8		
	Failure %	0,18%	0%			0.18%	0%			0%	1.4%		
	Nr reported	1	0			1	0			0	8		
	Reported % of failure	0,18%	0%			0.18%	0%			0%	1.5%		

C5. Water conservation and demand management

The 'Regulations relating to compulsory national standards and measures to conserve water', requires in section 10 (2) (g), that the water services authority should report on water conservation and demand management, including at least:

(i) the results of the water balance as set out in regulation 11;
(ii) the total quantity of water unaccounted for
(iii) the demand management activities undertaken; and
(iv) the progress made in the installation of water efficient devices

Items (i) and (ii) above has been addressed as part of Section C1 of this report.

In turn, section 10 (2) (b) (iii) requires the water services authority to report on the number of consumers connected to a water reticulation system where pressure rise above 900 kPa at the consumer connection, and in section 10 (2) (c) that this number must be expressed as a percentage of the total number of connections or households.

Breede Valley Municipality is committed to reduce the current percentage of non-revenue water for the various distribution systems. The Municipality's WDM Strategy and Action Plan include the following key activities:

- Continue with their pipeline replacement programme for the priority areas with old reticulation networks and frequent pipe failures. Several phases in the Worcester area were completed.
- A detail water meter audit must be carried out in all the towns. The purpose of the audit is to determine the age of the meters and to identify the un-metered erven. The audit will also assist with the identification of un-metered fire water connections which are being used by commercial and other users for non-firefighting purposes.
- Part of the meter audit will be the revision and improvement of the efficiency of bulk and zone metering in all areas and link properties with distribution zones in the financial data base, in order to do water balances for the smaller areas.
- Continue with the process of installing water meters at all the unmetered erven and replacing all the water meters older than eight years.
- Improved public awareness on water demand management issues, e.g. the watering of gardens. Leaflets on rain water harvesting and water wise gardening are made available to the public.
- Upgrading of the telemetry system, to act as an early warning system for e.g. pipe failures and reservoir overflows.
- Focused leak detection and repair programs will be performed in areas with highest minimum night flows.
- Identify users on the financial data base with regular abnormal high or abnormal low water use and physically inspect the causes. This activity should be implemented by the Finance Department. The owners of high water consumption properties should be phoned by the Municipality.
- Investigate the leak repairs at indigent households and the installation of flow limiters.
- Source all potential external sources of funding to assist with the implementation of the WC/WDM measures, for example leak repairs on properties in indigent areas.
- Continue with the removal of alien vegetation in the catchment areas (Working for Water Programme).
- Investigate further options for the use of final treated effluent for irrigation purposes and other purposes (e.g. industrial use).
- Building inspectors include the inspection of the water meter installations during the foundation inspections at construction / building sites.

Table C5 depicts an overview of the municipal water conservation and demand management activities in the 2020/2021 financial year.

Table C5: Overview of water conservation and demand management activities

WSDP Ref. #	Regulations Ref. #	Description	Year 0		Year - 1		Year - 2	
			2020-2021	2019-2020	2018-2019	2017-2016	2014-2015	2013-2014
7.1.1	10.2.g.iii	**REDUCING UNACCOUNTED FOR WATER AND WATER INEFFICIENCIES**						
		Number of customers where the following activities have been pursued:	Nr	% of total	Nr	% of total	Nr	% of total
7.1.1.1		Night flow metering	31 992	100%	29 521	100%	26 120	100%
7.1.1.2		Day flow metering	31 992	100%	29 521	100%	26 120	100%
7.1.1.3		Reticulation leaks fixed	470	100%	522	100%	344	100%
7.1.1.4		Illegal connections formalized	0		0		0	
7.1.1.5		Un-metered connections, metered	0		0		0	
7.1.2	10.2.g.iii	**REDUCING HIGH PRESSURES FOR RESIDENTIAL CONSUMERS**						
		Number of residential consumers with water supply pressure of:	Nr	% of total	Nr	% of total	Nr	% of total
7.1.2.1		< 300 kPa	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
7.1.2.2		300 kPa - 600 kPa	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
7.1.2.3		600 kPa - 900 kPa	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
7.1.2.4	10.2.b.iii	> 900 kPa			0		0	
7.1.3	10.2.g.iii	**LEAK AND METER REPAIR PROGRAMMES**						
		Number of consumer units targeted by:	Nr	% of total	Nr	% of total	Nr	% of total
7.1.3.1		Leak repair assistance programme	0		0		0	
7.1.3.2	10.2.g.iv	Retro-fitting of water inefficient toilets	0		0		0	
7.1.3.3		Meter repair programme					737	
7.1.4	10.2.g.iii	**CONSUMER / END-USE DEMAND MANAGEMENT: PUBLIC INFO AND EDUCATION PROGRAMMES**						
					Nr	% of total	Nr	% of total
7.1.4.1		Number of schools targeted by education programmes	3	4%	3	4%	3	4%
7.1.4.2		Number of consumers (people) targeted by public information programmes						

Section D: Approval and Publication Record

D1. This Annual Water Services Development Plan Performance- and Water Services Audit Report for the Financial Year ending 2021 (FY2021) is hereby approved for submission to the Minister of the Department of Water Affairs, the Minister for Department of Cooperative Governance, the Province and to SALGA, as required by the Water Services Act, 1997.

D2. The municipality will endeavour to publicise a summary of the report.

D3. This report will be available for inspection at the offices of the municipality, as of 31 December 2022 and obtainable against payment of a nominal fee of R 70,00.

RECOMMENDED:

Signature

16/11/2021
Date

Name: J Pekeur
Title: Acting Director Public Services

APPROVED:

Signature

16/11/2021
Date

Name: D McThomas
Title: Municipal Manager