BREEDE VALLEY

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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 2022 / 2023

Version Control

	Description	*Date*	*Reference*
Version 1			
Version 2			
Version 3			
Approval			

Prepared by:

Designation	*Name*	*Contact No.*	*E-mail*
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.co.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 2022/2023 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 2023 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 widespread 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 Wastewater 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.

The 2022/23 year was a challenging year especially with the load Shedding that impact on the treatment of water and waste-water.

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

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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.

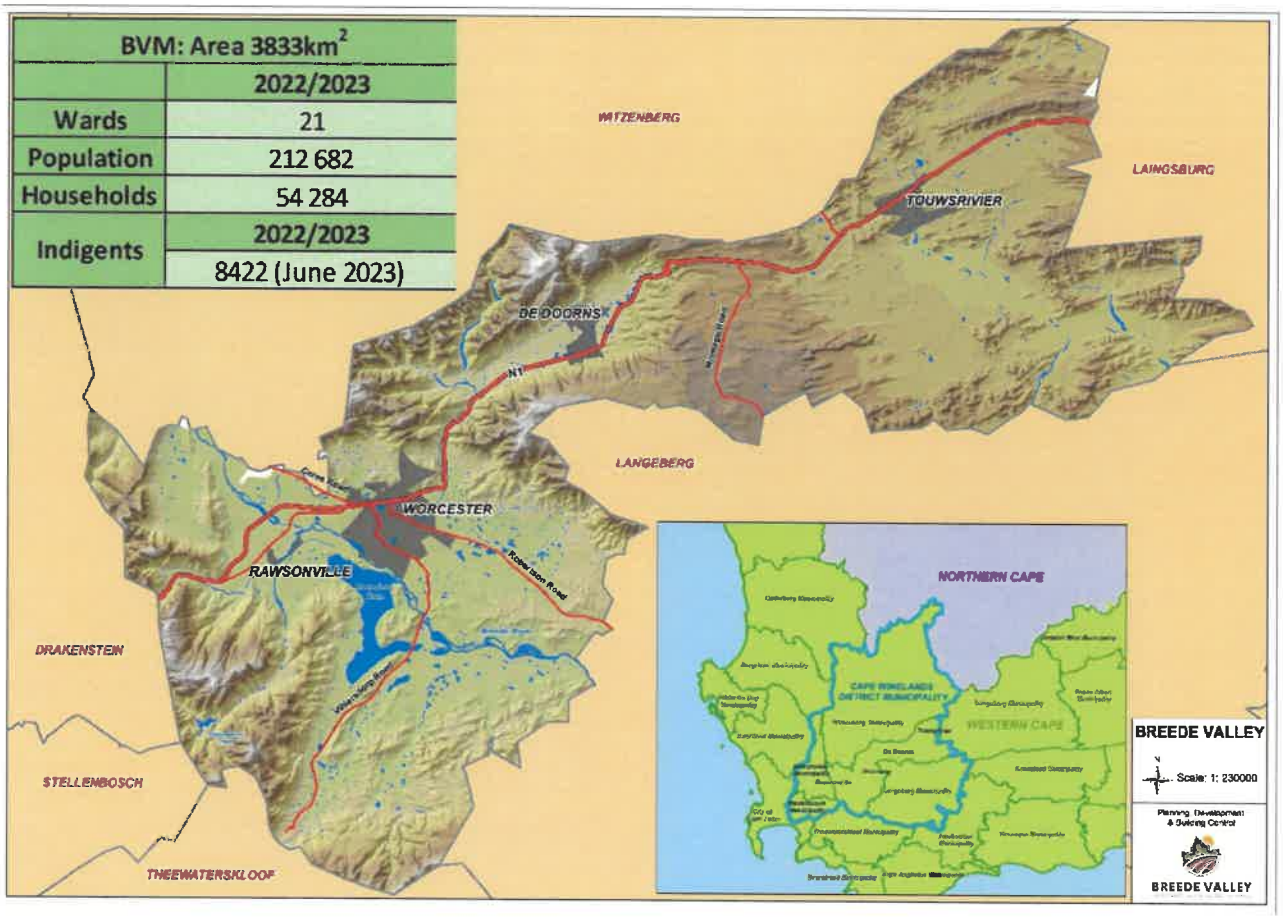
The Breede Valley Municipality covers an area of approximately 3 833 km² stretching from the Du Toitskloof Mountains in the south-west to the Kwadousberg Mountains in the south-east and including the towns of Rawsonville, Worcester, De Doorns and Touwsrivier as well as the rural areas adjacent to and 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 2022 figures the region has a counted population of 212 682 (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 862 703 (Census 2022). 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 212 682 during the 2022 census which comprised approximately of 54 284 households. The households are spread over a number of formal and informal settlement areas, which subsequent 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:	**Snr 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 212 682 comprising of 54 284 households, based on the Census 2022, of which approximately 8422 are classified as indigent.

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

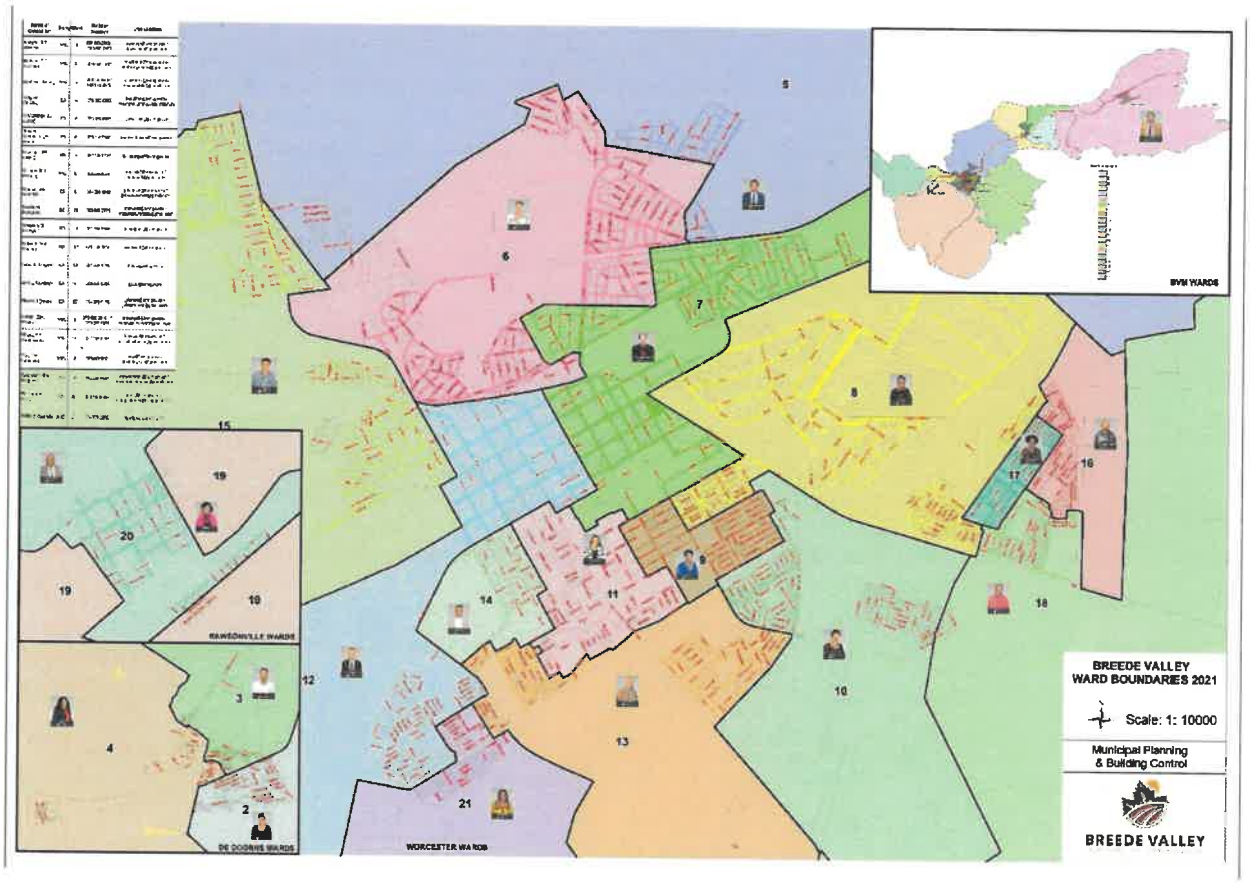


Table A3.1: Water services overview (water)

Settlement Type		2011*		2022		Water category									
		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	No Services: Informal	
URBAN															
Ward	**Area**	-	-	-	-	**Adequate**			**Below RDP**					**None**	
1	The entire community of Touwsrivier, including business and residential area.	2,071	8,751	2,422	10,823	✓	✓	✓							
2	De Doorns South, Stofland and adjacent farms	3,361	9,413	4,933	11,261	✓		✓							
3	The centre of De Doorns, Hasie Square, Ekuphumleni and adjacent farm areas.	2,155	9,592	2,521	11,135	✓	✓	✓							
4	Section of De Doorns town centre, Orchards and adjacent farm areas.	2,276	9,981	2,663	11,565	✓									
5	De Doorns farming areas including Brandwag, De Wet and Sandhills, Altona, Panorama	2,719	11,442	3,181	13,184	✓	✓	✓							
6	N1 Worcester entrance, Altona, Tuindorp, Bergsig, Van Riebeeck Park, Panorama, Hosp. Hills & Fairway Heights, Roux Park, Reunie Park	1,654	5,349	2,936	6,636	✓									
7	Paglande, Meirings Park, Part of Roux Park, De La Bat, Fairy Glen, Industrial area	2,152	6,187	2,517	7,364	✓									
8	The Chessis and part of Worcester south (Zweletemba), Industriele Area	2,328	8,911	2,724	11,527	✓									
9	Roodewal area and Esselen Park	1,513	6,847	2,771	9,095	✓		✓							
10	Hexpark, Johnsonspark and Roodewal Flats	1,633	7,924	1,911	9,289	✓									
11	OVD, Riverview and Parkersdam	1,757	6,694	2,056	8,926	✓									
12	Part of Avian Park, CBD and Russell Scheme	1,525	7,183	1,784	9,467	✓									
13	Johnsons Park 1, 2 & part of 3, part of Noble Park and Riverview houses.	1,749	7,592	2,046	9,920	✓									
14	Riverview flats & Victoria Park	1,321	5,924	1,545	8,073	✓									
15	Langerug, Worcester West, Somerset Park and Goudini farms	2,045	8,105	2,392	10,488	✓									

16	Zweletemba	2,703	7,938	3,162	12,613		✓	✓	✓								
17	Zweletemba	927	3,378	1,617	6,251		✓	✓	✓								
18	Zweletemba & farms from Overhex, Nonna, etc.	2,060	8,111	3,410	9,489		✓	✓	✓								
19	Part of centre of Rawsonville and outlaying farming community.	1,398	6,124	1,636	8,591		✓		✓								
20	Part of the centre of Rawsonville and areas towards N1. Part of Farms Goudini	1,828	7,627	2,138	9,953		✓	✓	✓								
21	Avian Park and all surrounding informal areas.	3,353	13,752	3,922	17,932		✓	✓	✓								
TOTAL		**42,528**	**166,825**	**54,284**	**212,682**		**21**	**8**	**11**	**0**	**0**	**0**	**0**	**0**	**0**		

Table A3.2: Water services overview (sanitation)

Settlement Type		2011*		2022		Sanitation category									
		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	
URBAN															
Ward	**Area**	-	-	-	-	**Adequate**			**Below RDP**					**None**	
1	The entire community of Touwsrivier, including business and residential area.	2,071	8,751	2,422	10,823	✓	✓	✓							
2	De Doorns South, Stofland and adjacent farms	3,361	9,413	3,933	11,261	✓		✓							
3	The centre of De Doorns, Hasie Square, Ekuphumleni and adjacent farm areas.	2,155	9,592	2,521	11,135	✓	✓	✓							
4	Section of De Doorns town centre, Orchards and adjacent farm areas.	2,276	9,981	2,663	11,565	✓									
5	De Doorns farming areas including Brandwag, De Wet and Sandhills, Altona, Panorama	2,719	11,442	3,181	13,184	✓	✓	✓							
6	N1 Worcester entrance, Altona, Tuindorp, Bergsig, Van Riebeeck Park, Panorama, Hosp. Hills & Fairway Heights, Poux Park & Reunie Park	1,654	5,349	2,936	6,636	✓									
7	Paglande, Meirings Park, Part of Roux Park, De La Bat, Fairy Glen, Industrial area	2,152	6,187	2,517	7,364	✓									
8	The Chessis and part of Worcester south (Zweletemba) Industriele area	2,328	8,911	2,724	11,527	✓									
9	Roodewal area and Esselen Park	1,513	6,847	2,771	9,095	✓									
10	Hexpark, Johnsonspark and Roodewal Flats	1,633	7,924	1,911	9,289	✓									
11	OVD, Riverview and Parkersdam	1,757	6,694	2,056	8,926	✓									

12	Part of Avian Park, CBD and Russell Scheme	1,525	7,183	1,784	9,467		✓									
13	Johnsons Park 1, 2 & part of 3, part of Noble Park and Riverview houses.	1,749	7,592	2,046	9,920		✓									
14	Riverview flats & Victoria Park	1,321	5,924	1,545	8,073		✓									
15	Langerug, Worcester West, Somerset Park and Goudini farms	2,045	8,105	2,392	10,488		✓									
16	Zweletemba	2,703	7,938	3,162	12,613		✓	✓	✓							
17	Zweletemba	927	3,378	1,617	6,251		✓	✓	✓							
18	Zweletemba & farms from Overhex, Nonna, etc.	2,060	8,111	3,410	9,489		✓	✓	✓							
19	Part of centre of Rawsonville and outlaying farming community.	1,398	6,124	1,636	8,591		✓		✓							
20	Part of the centre of Rawsonville and areas towards N1. Part of Farms Goudini	1,828	7,627	2,138	9,953		✓	✓	✓							
21	Avian Park and all surrounding informal areas.	3,353	13,752	3,922	17,932		✓	✓	✓							
TOTAL		**42,528**	**166,825**	**54,284**	**212,682**		**21**	**8**	**10**	**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 May 2023 for the period to 2028.

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) 2023 - 2028	Drafted:	May 2023	Year 1	**FY2020**	Year -4
		Comment submit:		Year 2	**FY2021**	Year -3
		Finalised:		Year 3	**FY2022**	Year -2
		Adopted:		Year 4	**FY2023**	Year -1
		Published:		Year 5	**FY2023**	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 2023, is as follows (KPIs for Capital Projects and the Operational Performance):

Table 3.2: Service Delivery Indicators for Water and Sanitation Services

Ref	KPI	Unit of Measurement	Wards	2021/22 Actual	Target					Overall performance for 2022/23	
					Q1	Q2	Q3	Q4	Annual	Actual	
TL26	Number of formal residential properties that are billed for water as at 30 June 2023	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	21469	21 480	21 480	21 480	21 480	**21 480**	**21 483**	G2
TL38	Limit unaccounted water losses to less than 25% by 30 June 2023	% unaccounted for water	All	17.13%	0.00%	0.00%	0.00%	25.00%	**25.00%**	**14.29%**	B
TL47	Achieve 95% average water quality level as measured per SANS 241 criteria during the 2022/23 financial year	% water quality level per quarter	All	95.73%	95.00%	95.00%	95.00%	95.00%	**95.00%**	**95.33%**	G2
TL48	Review the 5-year Water Service Development Plan IDP Water Sector Input Report and submit to Council for consideration by 31 March 2023	Water Service Development Plan IDP Water Sector Input Report submitted to Council for consideration	All	1	0	0	1	0	1	1	G
TL49	Spend 90% of the budget allocated towards the pipe cracking projects/works by 30 June 2023	% of budget spent	All	New performance indicator for 2022/23. No comparative audited results available	0.00%	0.00%	60.00%	90.00%	**90.00%**	**39.90%**	R

TL50	80% of sewage samples comply with effluent standard during the 2022/23 financial year {(Number of sewage samples that comply with General Authorisation/ Number of sewage samples tested) x100}	% of sewage samples compliant	All	87.53%	80.00%	80.00%	80.00%	80.00%	**80.00%**	**86.95%**	G2
TL51	Complete the investigation for sewerage blockages in Worcester and Rawsonville by the end of September 2022	Investigation completed	All	New performance indicator for 2022/23. No comparative audited results available	1	0	0	0	1	1	G
TL52	Spend 90% of the budget allocated towards the improvement of the sewerage system by 30 June 2023 {(Actual expenditure	% of budget spent	All	New performance indicator for 2022/23. No comparative audited results available	0.00%	0.00%	30.00%	90.00%	**90.00%**	**51.96%**	R

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 2022/2023 financial year.

Table B3.1: Water Services projects status and performance

Capital projects	2022/23				
	Budget	Adjustment budget	Actual expenditure	Variance from adjustment budget	Total project value 2022/23
	(R)				
Upgrading of Offices (Fairbairn Street)	1 500 000	1 610 000	300 029	1 309 971	1 610 000
Reservoirs: Pre-loads	18 481 271	4 561 871	4 561 871	0	4 561 871
Reservoirs: Pre-loads	55 000 000	55 000 000	30 863 272	24 136 728	55 000 000
Pipe cracking (all wards)	3 000 000	6 218 833	2 481 204	3 737 629	6 218 833
Johnsons Park - Water		99 098	99 098	0	99 098
Avian Park Industrial - Water	146 043	146 043	0	146 043	146 043
Somerset Park - Water	146 043	146 043	0	146 043	146 043
Water Connections	2 719 200	2 929 440	191 520	2 737 920	2 929 440
Augmentation of Water Treatment Works (MIG counter funding)	2 557 000	2 357 000	2 123 309	233 691	2 357 000
Total all	**83 549 557**	**73 068 328**	**40 620 303**	**32 448 025**	**73 068 328**
Total project value represents the estimated cost of the project on approval by council (including past and future expenditure as appropriate)					

Capital projects	2022/23				
	Budget	Adjustment budget	Actual expenditure	Variance from adjustment budget	Total project value 2022/23
	(R)				
Touwsrivier: Waste Water Treatment Works (WWTW) Augmentation: MIG	500 000	500 000	490 778	9 223	500 000
Pump station upgrading and refurbishment	2 000 000	2 000 000	513 000	1 487 000	2 000 000
Rawsonville WWTW: Extension of WWTW (0,24 Ml/day)	27 000 000	27 000 000	23 909 228	3 090 772	27 000 000
De Dooms WWTW Reactor	2 550 000	2 750 000	2 152 183	597 817	2 750 000
Upgrading of Sewer Network: External Loan	15 000 000	15 000 000	5 696 997	9 303 003	15 000 000
Water - Machinery and equipment	500 000	478 000	183 504	294 496	478 000
Upgrading of Rawsonville sewer line		19 000 000	14 586 743	4 413 257	19 000 000
Upgrading of various sewer pumpstations		12 000 000	5 021 097	6 978 903	12 000 000
Upgrading of various sewer pumpstations		950 000	950 000	0	950 000
Construction of Kwinana Street bypass sewer		9 500 000	3 601 438	5 898 562	9 500 000
Somerset Park - Sewer	438 005	438 005	0	438 005	438 005
Sewer connections	1 120 000	1 120 000	0	1 120 000	1 120 000
Total all	**49 108 005**	**90 736 005**	**57 104 967**	**33 631 038**	**90 736 005**

Total project value represents the estimated cost of the project on approval by council (including past and future expenditure as appropriate).

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 Pre-Loads	Water	Worcester	29 178	113 627	Secure water supply

B5: Operational & Maintenance Budget and Expenditure

Table B5.1 presents the municipality's water services high level operation and maintenance budget.
It must be noted that the figures above for 2022/2023 financial year is not audited figures.

	2020/21		2021/22		2022/23	
	Budget	Actual	Budget	Actual	Budget	Pre-Audited Actual
Water Revenue	R 112,627,382	R 119,417,372	R 117,148,892	R 124,306,534	R 132,678,400	R 131,117,532
Waste Water Revenue	R 123,062,868	R 119,912,229	R 147,985,153	R 128,833,360	R 177,516,110	R 138,550,783
Total Revenue	**R 235,690,250**	**R 239,329,601**	**R 265,134,045**	**R 253,139,894**	**R 310,194,510**	**R 269,668,315**
Expenditure						
Water Expenditure	R 75,334,520	R 75,099,376	R 83,984,750	R 45,220,214	R 52,950,138	R 49,351,171
Waste Water Expenditure	R 68,149,628	R 68,096,067	R 82,362,283	R 80,994,173	R 83,127,864	R 81,255,234
Total Expenditure	**R 143,484,148**	**R 143,195,443**	**R 166,347,033**	**R 126,214,387**	**R 136,078,002**	**R 130,606,405**

The repairs and maintenance cost as well as the percentage of the repairs and maintenance for the 2022/2023 financial year is provided in Table B5.2 below.

Table B5.2: Repairs and Maintenance

	2020/21		2021/22		2022/23	
Repairs and Maintenance	**Actual**	**% of O&M**	**Actual**	**% of O&M**	**Pre-Audited Actual**	**% of O&M**
Water	R 4,816,561	6.4%	R 12,384,204	27.4%	R 3,769,531	7.6%
Waste Water Management	R 4,374,811	6.4%	R 9,984,307	12.3%	R 13,402,114	16.5%
TOTAL	**R 9,191,372**	**6.4%**	**R 22,368,511**	**17.7%**	**R 17,171,645**	**13.1%**

It must be noted that the figures above for 2022/2023 financial year is not audited figures.

The total percentage for repairs and maintenance for the 2022/2023 financial year is 13.1%.

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 0	Year - 1	Year - 2
			FY2022	FY2021	FY2020	FY2019
		RAW WATER				
7.2.1		Surface water purchased				
7.1 / 7.2.2		Surface water abstracted	14 119 937	14 168 718	14 206 458	15 424 595
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**	**14 119 937**	**14 168 718**	**14 206 458**	**15 424 595**
	10.2 (g) (i)	**BULK WATER SUPPLY**				
7.2.6		Volume of water treated	14 119 937	14 168 718	14 206 458	15 424 595
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	**14 119 937**	**14 168 718**	**14 206 458**	**15 424 595**
		WATER CONSUMPTION				
7.2.8.1		Billed Metered:	12 102 246	11 741 327	10 757 799	10 807 266
	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	72 111	56 986	106 874	23 058
	10.2 (g) (i)	**Sub-Total: Authorized consumption**	**12 030 135**	**11 684 341**	**10 650 925**	**10 830 324**
		UNACCOUNTED FOR WATER				
7.3.1		Raw water bulk loss				
7.2.3/7.2.4		Billing losses	72 111	56 986	106 874	23 058
7.2.5		Apparent losses				
7.2.5.1		Illegal connections				
7.2.5.2		Inaccurate meters				
7.2.5.3		Data errors	310 317	301 062	275 843	164 578
7.2.6		Real losses	1 635 264	2 069 342	3 065 942	4 429 693
	10.2 (g) (ii)	**Sub-Total: Unaccounted for water**	**2 017 692**	**2 427 391**	**3 448 659**	**4 617 329**
		WASTEWATER TREATMENT	**FY2022**	**FY2021**	**FY2020**	**FY2019**
7.2.9	10.2 (a) (iii)	Total received at WWTW	7 548 750	6 431 490	8 092 050	7 497 766
7.2.11		Total discharged	4 850 325	6 910 486	8 729 597	3 255 061
7.2.13		Returned to environment	4 850 325	6 910 486	8 729 597	3 255 061
7.2.14		Recycled				
	10.2 (a) (iv)	**Quantity of water supplied not discharged to WWTW's**		**478 996**	**637 547**	**4 242 705**

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	Water Services						
		Year 0 FY2022		Year - 1 FY2021		Year -2 FY2020		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3,3	Metered: Uncontrolled							
3,3	Metered: Controlled*	21 483	70%	21 377	68%	22 298	68%	0
	Unmetered (flat rate)	0		0		0		0
	Communal water supply	7 999	26%	8 982	29%	8 769	28%	0
	Sub-Total: Residential	**29 482**	**96%**	**30 349**	**97%**	**31 067**	**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	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	0%	0
	Sub-Total: Institutional	**18**	**0%**	**18**	**0%**	**18**	**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	3%	0
3,3	Office Buildings	0	0%	0	0%	0	0%	0
	Sub-Total: Commercial	**780**	**3%**	**780**	**3%**	**780**	**3%**	**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	**30 781**	**100%**	**31 735**	**100%**	**32 356**	**100%**	**0**

Table C2.1.2: User connection profile: Wastewater

WSDP Ref. #	Category of users	Wastewater Services						
		Year 0 FY2022		Year - 1 FY2021		Year - 2 FY2020		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3,3	Metered: Uncontrolled							
3,3	Metered: Controlled*	19 461	89%	23 275	90%	23 275	90%	
	Unmetered (flat rate)	517	2%	517	2%	517	2%	
	On site sanitation non waterborne	776	4%	776	3%	776	3%	
	Sub-Total: Residential	**20 532**	95%	**24 568**	95%	**24 568**	95%	
	EDUCATION							
3,3	Schools	65	0.30%	65	0,27%	65	0,27%	
	Tertiary education facilities	2	0.01%	2	0,01%	2	0,01%	
	Sub-Total: Education	**67**	**0.31%**	**67**	**0,28%**	**67**	**0,28%**	
	HEALTH							
3,3	Clinics	14	0.06%	14	0,06%	14	0,06%	
3,3	Hospitals	4	0.02%	4	0,02%	4	0,02%	
3,3	Health Centres	0	0	0	0,00%	0	0,00%	
	Sub-Total: Health	**18**	**0.08%**	**18**	**0,08%**	**18**	**0,08%**	
	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	0,02%	
3,3	Prisons	2	0,01%	2	0,01%	2	0,01%	
	etc.		0,00%		0,00%		0,00%	
	Sub-Total: Institutional	**8**	**0,03%**	**8**	**0,03%**	**8**	**0,03%**	
	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	3%	780	3%	780	3%	
3,3	Office Buildings	0	0%	0	0%	0	0%	
	Sub-Total: Commercial	**780**	**3%**	**780**	**3%**	**780**	**3%**	
	MINING							
		0%	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	0,038%	
	Sub-Total: Other	**96**	**0,404%**	**96**	**0,404%**	**96**	**0,404%**	
	TOTAL	**21 830**	**100%**	**25 857**	**100%**	**25 132**	**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 FY2022		Year -1 FY2021		Year -2 FY2020	
		Nr	%	Nr	%	Nr	%
	WATER (ABOVE MIN LEVEL)						
Piped (tap) water inside dwelling/institution	House connections	21 375	61.5%	21 325	69%	22 298	69%
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	13 365	38.5%	9 467	31%	9 521	31%
	Sub-Total: Minimum Service Level and Above	**34 740**	100%	**30 792**	100%	**31 819**	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	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	
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	0%
	Sub-Total: Below Minimum Service Level	**0**	**0**	**0**	**0%**	**0**	**0%**
	Total number of households	**34 740**	**100%**	**31 898**	**100%**	**31 819**	**100%**

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

Census Category	Description	Year 0 FY2022		Year -1 FY2021		Year -2 FY2020	
		Nr	%	Nr	%	Nr	%
	SANITATION (ABOVE MIN LEVEL)						
Flush toilet (connected to sewerage system)	Waterborne	22 496	94%	20 028	95%	23 275	95%
	Waterborne: Low Flush	0		0		0	
Flush toilet (with septic tank)	Septic tanks / Conservancy	411	2%	411	2%	415	2%
Chemical toilet	Non-waterborne (above min. service level)	1 069	4%	1064	3%	890	3%
Pit toilet with ventilation (VIP)		0	0	0		0	
Other		0	0	0		0	
	Sub-Total: Minimum Serivce Level and Above	**23 976**	**100%**	**21 503**	**100%**	**24 850**	**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	**23 976**	**100%**	**21 503**	**100%**	**24 850**	**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.

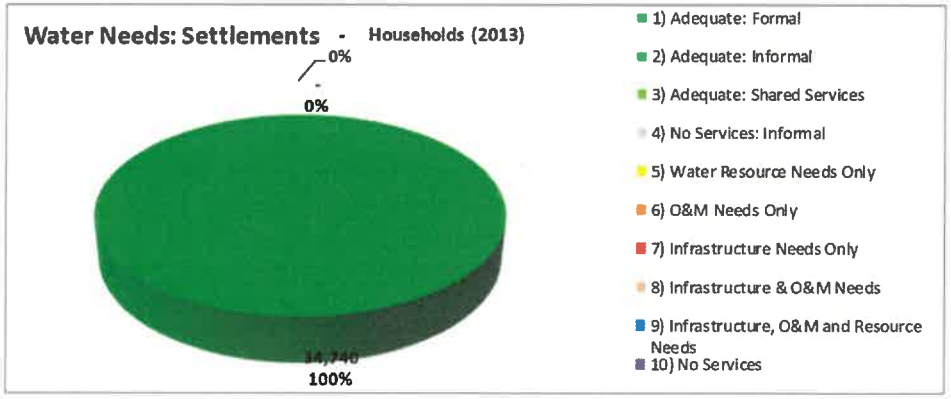
It must be noted that the adequacy profile is based on levels of service for the areas within the urban edge and aligned with the Department of Water Affairs, reference framework figures. The adequacy profile represents a WSA perspective and hence, includes all wards located within the Breede Valley 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	9	21,375	62%			13,365	39%																		
2	23																								
3	0																								
4	29																								
5	0																								
6	0																								
7	3																								
8	0																								
9	0																								
10	0																								
Total Household interventions required		21,375		0		13,365		0		0		0		0		0		0		0		0		0	



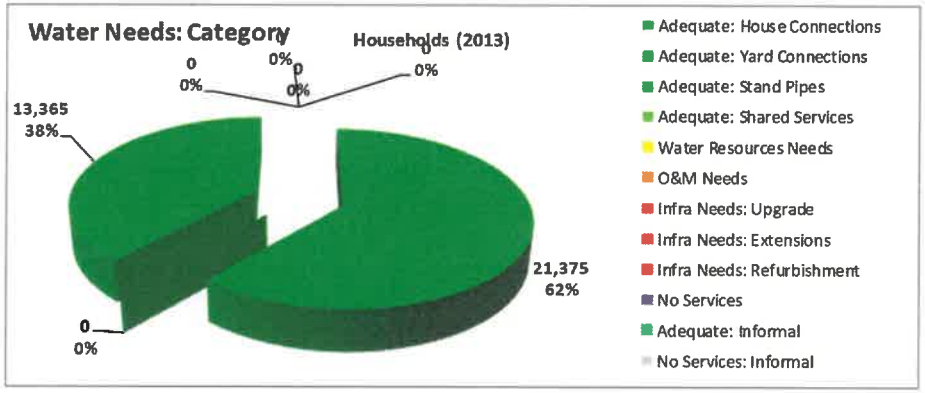
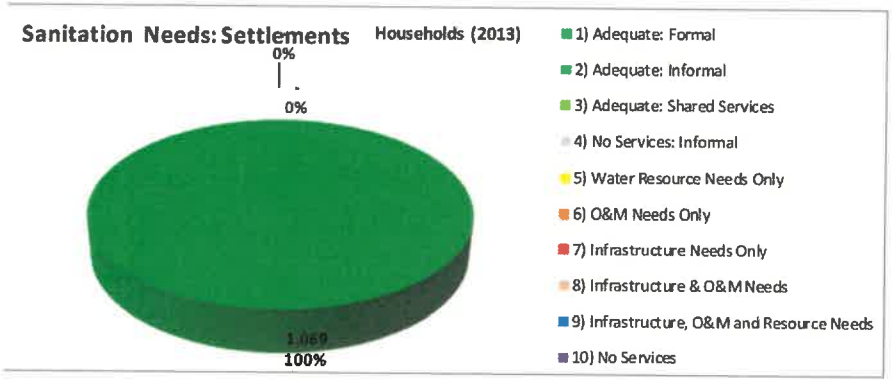
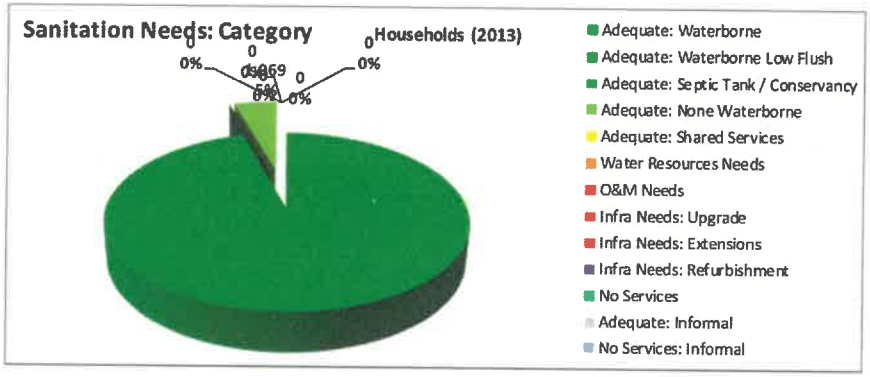


Table C2.3 (b): Residential water services delivery adequacy profile (Sanitation)

Water Categorisation	Number of settlements	FORMAL																		INFORMAL			
		Adequate												Infrastructure Needs									
		Waterborne		Waterborne Low flush		Septic Tank/ Conservancy		None Waterborne		Shared Services		Water Resource needs		O & M Needs		Upgrades		Extensions		Refurbishment		No services		Adequate		No services	
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
1	6	22,496	94%					1,069	4%																		
2	1																										
3	49																										
4	0																										
5	0																										
6	0																										
7	6																										
8	0																										
9	0																										
10	2																										
Total Household interventions required		22,496		0		0		1,069		0		0		0		0		0		0		0		0		0	





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 https://bvm.gov.za/download/approved-municipal-tariffs-2022-2023/ to access the 2022/23 tariffs

Table C3.1.1: Tariffs for water

No	Category	Sector	Unit	Tariff (VAT excluded)			% increase Year 0
				Year 0	Year - 1	Year - 2	
				FY2022	FY2021	FY2020	
1,1	**BASIC CHARGES**						
	Residential		R/c/m	48.26	45.65	43.48	
	Sport clubs/ Educational/ Institutions and Churches		R/c/m	48.26	45.65	43.48	
	Handel / Business/Commerce		R/c/m	243.48	230.43	217.39	
	Connection greater than- 149 mm		R/c/m	295.65	278.26	260.87	
2	**VOLUME CHARGES**						
	0 - 6 Kl	Residential	R/Kl	5.00	4.74	4.52	
	7 - 20 Kl	Residential	R/Kl	8.76	8.31	7.46	
	21 - 70 Kl	Residential	R/Kl	15.01	14.23	12.79	
	71 + Kl	Residential	R/Kl	27.51	26.09	23.44	
	0 - 20 Kl	Commercial	R/Kl	11.73	11.13	16.60	
	21 - 40 Kl	Commercial	R/Kl	12.69	12.03	11.46	
	41 - 60 Kl	Commercial	R/Kl	13.93	13.21	12.58	
	61 - 100 Kl	Commercial	R/Kl	15.61	14.81	14.10	
	101 + Kl	Commercial	R/Kl	16.26	14.52	14.69	
		Sport Clubs	R/Kl	5.00	4.74	4.52	
	Excluding private schools/colleges	Educational (schools and Colleges)	R/Kl	5.00	4.74	4.52	
		Welfare and Old Age Homes	R/Kl	5.00	4.74	4.52	
	Excludes rectory if consumption metered separately	Churches	R/Kl	5.00	4.74	4.52	
		Municipal	R/Kl	5.00	4.74	4.52	
		Fire Fighting	R/Kl	5.00	4.74	4.52	
	IRRIGATION						
	Purified		R/Kl	N/A	N/A	N/A	
	Non-purified		R/Kl	2.39	1.54	1.47	

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			
				FY2022	FY2021	FY2020			
	BASIC CHARGES								
	Per month			327.83	310.43	295.65			
	Annual			3 933.91	3 725.22	3547.83			
	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			12.35	11.68	11.13			
	More than 800 kiloliter: Per Kiloliter			7.46	7.03	6.69			
	to a maximum of 1600 kiloliter/kiloliter								
	With minimum of								
	Minimum per connection per office, shop, etc.								
	Offices, smaller than 36 m²			380.87	360.87	343.48			
	Ander / Other			1 545.22	1 462.61	1313.04			
	Educational (crèche's, schools and colleges)								
	Monthly per connection			126.09	119.13	113.04			
	Office				-				
	Sport clubs and Educational (crèche's, schools and colleges)								
	Monthly per connection			126.09	119.13	113.04			
	Churches; Places of worship; Institutions and Old Age Homes								
	Includes rectory if on same erf as the church)								
	Monthly per connection			126.09	119.13	105,22			
	Municipal (Departmental)								
	Monthly per connection			126.09	119.13	105,22			
	Availability Funds								
	Monthly per erf								
	Residential			247.83	233.04	208,70			
	Commercial			752.17	708.70	634,78			
	INDUSTRIAL EFFLUENT								
	Determined with a formula at the end of the financial year.			6.24	5.92	5,32			

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 FY2022	Year - 1 FY2021	Year - 2 FY2020
	UNITS SUPPLIED (as per water services access profile)				
10.2 (b) (i)	Household water connections (house and yard connections)	Nr	21 375	22 298	20 860
10.2 (b) (iv)	Household sewerage connections	Nr	22 496	23 275	22 726
	METERING				
	Metered Water Connections (aligned with Billing System)				
	Residential	Nr	21 483	19 833	22 298
	Commercial / Business	Nr	764	764	794
	Industrial	Nr	24	24	26
	Government / Institutional	Nr	756	756	819
	etc.	Nr			
	Sub-Total: Metered Water Connections	**Nr**	**23 027**	**21 377**	**23 937**
	Proportion of metered connections (residential)	%	100%	100%	100%
	Total number of meters	Nr	23 049	22 298	20 860
10.2 (b) (vi)	Total number of new connections (aligned with Table C.2.1)	Nr	22	110	218
10.2 (e) (i)	Total number of new meters installed	Nr	22	110	218
	Proportion of new connections, metered	%	100%	100%	100%
	Number of meters tested	Nr	12	0	0
10.2 (e) (ii)	Proportion of meters tested to total number of meters	%	0,05	0	0
	Number of meters replaced	Nr	246		
10.2 (e) (ii)	Proportion of meters replaced to total number of meters	%	1%	0	0
	BILLING				
	Customer billing (water and sewerage)				
	Residential	Nr	21 483	19833	22 298
	Commercial / Business	Nr	764	794	794
	Industrial	Nr	24	26	26
	Government / Institutional	Nr	756	819	819
	etc.	Nr			
	Sub-Total: Customers billed	Nr	23 097	23 937	22 499
	Proportion of bills to metered connections	%	100%	100%	100%
	Residential	%	100%	100%	100%
	Commercial / Business	%	100%	100%	100%
	Industrial	%	100%	100%	100%
	Government / Institutional	%	100%	0,0%	0,0%
	etc.	%	100%	100%	100%
	FREE BASIC SERVICES				
	Nr customers receiving:				
	Free Basic Water	Nr	7 999	9820	8 891
10.2 (b) (v)	Free Basic Sanitation	Nr	7 999	9820	8 891
	Proportion of Free Basic Services				
	Water	%	37%	43%	38%
	Sewerage	%	36%	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 FY2022	Year - 1 FY2021	Year - 2 FY2020
	INCOME	**R'000**	**R'000**	**R'000**
	Billed			
	Water reticulation / provision	131 118	124 307	119 417
	Sewerage / wastewater	138 551	128 833	119 912
	Sub-Total: Billed	**269 668**	**253 140**	**239 330**
	Collections			
	Water reticulation / provision			
	Sewerage / wastewater			
	Sub-Total: Collections	**R 0**	**R 0**	**R 0**
	Equitable share income			
	Water reticulation / provision	22 371	19 908	21 895
	Sewerage / wastewater	42 216	37 572	41 971
	Sub-Total: Equitable share income	**64 587**	**57 480**	**63 866**
	EXPENDITURE (O&M)	**R'000**	**R'000**	**R'000**
	Water services	49 351	45 220	75 107
	Sewerage / wastewater services	81 255	80 994	68 096
	Total: Water Services O&M	**130 606**	**126 214**	**143 203**
	COST RECOVERY ANALYSIS / RATIO'S			
10.2 (d) (ii)	**Billed as % of Cost**			
	Water	266%	170%	159%
	Sewerage	171%	153%	176%
	Total	**206%**	**161%**	**167%**
10.2 (d) (iii)	**Unrecovered as % of Cost**			
	Water services	266%	170%	159%
	Sewerage / wastewater services	170.51%	153%	176%
	Total	**206%**	**161%**	**167%**

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.

Over the past year, the Breede Valley had challenges to ensure compliance with water quality standards due to erratic load-shedding stages. BVM was continuously treating and disinfecting the drinking water with chlorine, but during Stage 5 and Stage 6 load-shedding, the residual chlorine in the system was depleted, and disinfection efficiency decrease causing some microbial failures. The national shortage of 70kg chlorine gas cylinders had to be mitigated since the shortage is prolonged and will not be resolved soon. All available 70 kg gas chlorine is dedicated to water treatment and alternative booster chlorination at water treatment facilities and primary chlorination at wastewater treatment facilities had to be implemented. BVM also experienced colour and turbidity failures due to abnormal high rainfall/storms/cloud bursts. Since the treatment processes are not designed to remove mud, discoloration occurred and water quality failures. With mitigating factors, BVM managed to limit noncompliance to drinking water standards.

Microbial Failure Mitigation options - Loadshedding Stage 5 & 6:

1. Generators were procured to ensure continues chlorination and treatment during loadshedding.
2. Installation of Solar system to ensure continuous treatment at Bokrivier water treatment works.
3. Addition of alternative disinfection methods, e.g., chlorine chips and HTH solution, not dependent on electricity and chlorine gas availability were implemented.
4. Continuous monitoring of water quality and communication with the public.

Turbidity and Colour Failures due to heavy rain:

1. Scouring of fire hydrants, dams, and reservoirs in certain areas
2. Booster chlorination with HTH
3. Notification to the public and increased sampling of areas mostly affected by discoloration of drinking water

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 (Worcester)	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
1	Raw Water Sources	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	15
3	Langerug Reservoir	Yes	Yes	Yes				
4	Preloads Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
5	Avian Park	No	No	Yes	Iron	30	30	30
6	Johnson Park	Yes	Yes	Yes	Sulphate	30	30	30
7	Lower Town	Yes	Yes	Yes				
8	APL Cartons	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
9	Suggett Street	Yes	Yes	Yes	TDS	30	30	30
10	Town Centre	Yes	Yes	Yes	Colour	30	30	30
11	Worcester West (NG Church)	Yes	Yes	Yes	Manganese	30	30	30
12	Upper Town	Yes	Yes	Yes	Electrical Conductivity	30	30	30
13	Zwelenthemba	Yes	Yes	Yes	Calcium	30	30	30
					Chloride	30	30	30
					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	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	De Koppen (Fairy Glen) WTW (Worcester)	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
1	Raw Water Sources	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	15
3	De Koppen Reservior	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)**			
					TDS	30	30	30
					Colour	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 (Touwsrivier) WTW	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
1	Raw Water Sources	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	15
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 Offices	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
					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	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Rawsonville Town(part of Stettynskloof WTW)	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
1	Raw Water Sources	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	15
3	Rawsonville Reservoir	Yes	Yes	Yes	**Chemical (Health)**			
4	De Nova	Yes	Yes	Yes	Iron	30	30	30
5	Office (Town Centre)	Yes	Yes	Yes	Sulphate	30	30	30
6	School	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
7	Police Station(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
					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	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
1	Raw Water Sources	Yes	Yes	Yes	**Microbiological (Health)**			
2	Final Treated Water	Yes	Yes	Yes	*E.coli*	15	15	15
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(Town Centre)	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	Weltervrede	Yes	Yes	Yes	Calcium	30	30	30
12	School	Yes	Yes	Yes	Chloride	30	30	30
					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
#	Worcester WWTW	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
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					Suspended 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	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
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					Suspended Solids	7	7	7

Registered Sites		Active			Determinands per Category	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	De Doorns WWTW	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
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					Suspended 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	2022-2023	2021-2022	2020-2021		2022-2023	2021-2022	2020-2021
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					Suspended 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 2022-2023				Year-1 2021-2022				Year-2 2020-2021			
		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 %	98%	100%	100%		98,1%	99,9%	99,2%		96,5%	100%	90,6%	
Data Credibility	Average %	100%	100%	88%		99,9%	99,9%	87,4%		99,9%	99,9%	87,5%	
BDS In-Time Submission	Annual %	93%	94%	94%		67,5%	70,7%	69,4%		88,8%	93,1%	93,1%	
Wastewater Quality													
Monitoring compliance	Average %	96%				99,1%				95,7%			
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 2022-2023	Year - 1 2021-2022	Year - 2 2020-2021
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 %	95,80%	95,70%	95,80%
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
			2023-2022	2021-2022	2020-2021
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 %	96%	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 2022-2023				Year-1 2021-2022				Year-2 2020-2021			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results per the Blue Drop System													
n/a	Analysis compliance	Total	953	466	3812		969	477	3921		1122	543	4348	
n/a		Nr Failures	24	0	18		18	0	30		21	0	313	
n/a		Compliance %	98%	100%	100%		98,1%	100%	99,2%		98,1%	100%	92,8%	
n/a	Samples frequency	Total	952	508	477		951	473	488		1085	522	523	
n/a		Nr Failures	24	0	18		18	0	30		21	0	313	
n/a		Compliance %	98%	100%	96%		98,1%	100%	93,9%		98,1%	100%	40,2%	
n/a	Sites compliance	Total	498	501	472		494	468	483		561	505	506	
n/a		Nr Failures	24	0	18		18	0	30		21	0	313	
n/a		Compliance %	95,2%	100%	96,2%		96,4%	100%	93,8%		96,3%	100%	38,1%	
6.3	**Water Supply and Quality**													
6.3.6	Blue Drop Status	last year certified by DWA	Assesment for the 2021-2022 year was done in Jan/Feb 2023. Final results is still outstanding.				No Assessment Assessment taking place in Sept-Oct 2022. Blue Drop outcome available March 2023				No Assessment			
9.3	**Water Quality**													
9.3.10	% Time (days) within SANS 241 standards per year	Average of sites compliance %	97,1%				96,7%				78,1%			

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 2022-2023				Year-1 2021-2022				Year-2 2020-2021			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results per the Green Drop System													
n/a	Regulatory compliance	Total	187	486	677		203	563	766		190	760	567	
n/a		Nr Failures	15	142	99		17	119	141		10	182	44	
n/a		Compliance %	92%	71%	85%		92%	79%	82%		95%	76%	92%	
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 %	19,0%				16%				12%			
6.3	**Water Supply and Quality**													
6.4.6	Green Drop Status	certified per GDS	No assessment				No Assessment				2020/2021 Assessment No Green Drop Status achieved for any of the 4 WWTWs for the 2020-2021 period			

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
			2022-2023	2021-2022	2020-2021
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: Summary of water quality compliance per the Blue Drop System

Measurable / Enabling Factor	Unit	Year 0 2022-2023				Year-1 2021-2022				Year-2 2020-2021			
		Acute Health - 1 Microbiological	Acute Health - 1 Chemical	Acute Health - 2 Microbiological	Chronic Health	Acute Health - 1 Microbiological	Acute Health - 1 Chemical	Acute Health - 2 Microbiological	Chronic Health	Acute Health - 1 Microbiological	Acute Health - 1 Chemical	Acute Health - 2 Microbiological	Chronic Health
Failures in terms of Analysis	Total nr	953	466			969	477			1122	543		
	Nr of failures	24	0			18	0			21	0		
	Failure %	3%	0%			2%	0%			2%	0%		
	Nr reported	24	0			18	0%			21	0		
	Reported % of failure	3%	0%			2%	0%			2%	0%		
Failures in terms of Samples	Total	952	508			951	473			1085	522		
	Nr of failures	24	0			18	0			21	0		
	Failure %	3%	0%			2%	0%			2%	0%		
	Nr reported	24	0			18	0%			21	0		
	Reported % of failure	3%	0%			2%	0			2%	0%		
Failures in terms of Sites	Total	498	472			494	468			561	505		
	Nr of failures	24	0			18	0			21	0		
	Failure %	5%	0%			4%	0%			4%	0%		
	Nr reported	24	0			18%	0%			21	0		
	Reported % of failure	5%	0%			4%	0%			4%	0%		

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 2022/23 financial year.

Table C5: Overview of water conservation and demand management activities

WSDP Ref. #	Regulations Ref. #	Description	Year 0		Year - 1		Year - 2	
			2022-2023	2021-2020	2020-2021	2022-2023	2021-2020	2020-2021
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	0					
7.1.1.2		Day flow metering	54 284					
7.1.1.3		Reticulation leaks fixed	620					
7.1.1.4		Illegal connections formalized	1					
7.1.1.5		Un-metered connections, metered	2					
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	0					
7.1.2.2		300 kPa - 600 kPa	0					
7.1.2.3		600 kPa - 900 kPa	50 000					
7.1.2.4	10.2.b.iii	> 900 kPa	4 284					
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					
7.1.3.2	10.2.g.iv	Retro-fitting of water inefficient toilets	0					
7.1.3.3		Meter repair programme	0					
7.1.4	10.2.g.iii	**CONSUMER / END-USE DEMAND MANAGEMENT: PUBLIC INFO AND EDUCATION PROGRAMMES**						
			Nr	% of total	Nr	% of total	Nr	% of total
7.1.4.1		Number of schools targeted by education programmes	0					
7.1.4.2		Number of consumers (people) targeted by public information programmes	212 682					

Section D: Approval and Publication Record

D1. This Annual Water Services Development Plan Performance- and Water Services Audit Report for the Financial Year ending 2023 (FY2022) 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 and on the Municipal website, as from 31 October 2023.

RECOMMENDED:

13/10/2023

Signature Date

Name: J Pekeur

Title: Senior Manager Water Services

APPROVED:

13/10/2023

Signature Date

Name: D McThomas

Title: Municipal Manager