WITZENBERG
Municipality • Munisipaliteit • U Masipala Wasa

WITZENBERG MUNICIPALITY

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

2019/2020

Version Control

	Description	*Date*	*Reference*
Version 1	Adopted (WSDP) 2006/07	31 March 2006	
Version 2	Adopted (WSDP) 2009/10	31 March 2009	
Version 3	Adopted (WSDP) 2010/11	31 March 2010	
Approval	Adopted (WSDP) 2011/2012	September2012	
Approved	(WSDP) 2016/17	February 2019	

Prepared by:

Designation	*Name*	*Contact No.*	*E-mail*
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Foreword

Witzenberg Municipality has a duty to all its customers or potential customers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services that promote sustainable livelihoods and economic development.

This report is submitted as a fulfilment of clause 18 of the Water services Act No 108 of 1997,which reads:

"18 (1) A water services authority must report on the implementation of its development plan during each financial year.

(2) The report-

(a) must be made within four months after the end of each financial year; and

(b) must be given to the Minister, the Minister for Provincial Affairs and Constitutional Development, the relevant Province and every organization representing municipalities having jurisdiction in the area of the water services authority.

(3) The water services authority must publicise a summary of its report.

(4) A copy of the report and of its summary must be –

(a) available for inspection at the offices of the water services authority; and

(b) be obtainable against payment of a nominal fee."

The water services audit is designed to monitor the compliance of Witzenberg Municipality with the above regulations. Witzenberg Municipality is performing very well with regard to drinking water quality management, to the extent that the Municipality was awarded Blue Drop Status (>95%) for all their distribution systems in 2014 and received an overall Blue Drop Score of 96%. Witzenberg received municipal Blue Drop status for the third time in a row for all 5 systems. The Municipality was 2nd on the 2014 Blue Drop Provincial Performance Log for the Western Cape, and in the 9th position on the National Performance Log.

Witzenberg Municipality is also performing well with regard to wastewater quality management, to the extent that the Municipality was awarded Green Drop Status (>90%) for all four wastewater systems in 2013. This achievement was as a result of team's organised approach, excellent preparation; strong management input, disciplined and truly committed team work.

In terms of Water Demand Management, Witzenberg works according to the recommendations of the implemented Strategy. The UAW for the past three financial years, decreased from 17.91% to 15.04% which is extremely successful, although room for improvement.

The Municipality wishes to express its gratitude for the consistent support from the DWS: Western Cape regional office, with respect to Water Services Development Planning and the specific support provided in developing this Annual WSDP Performance- and Water Services Audit Report. As a WSA we are committed to improved water services development planning.

Sincerely

Mr David Nasson
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

Witzenberg Municipality is situated within the Cape Winelands District Municipality, and consist of the towns of Tulbagh, Wolseley, Ceres, Prince Alfred Hamlet and Op Die Berg. The Municipality covers an area of 10 753 km^2.

Figure A1.1: Location of WItzenberg within the District

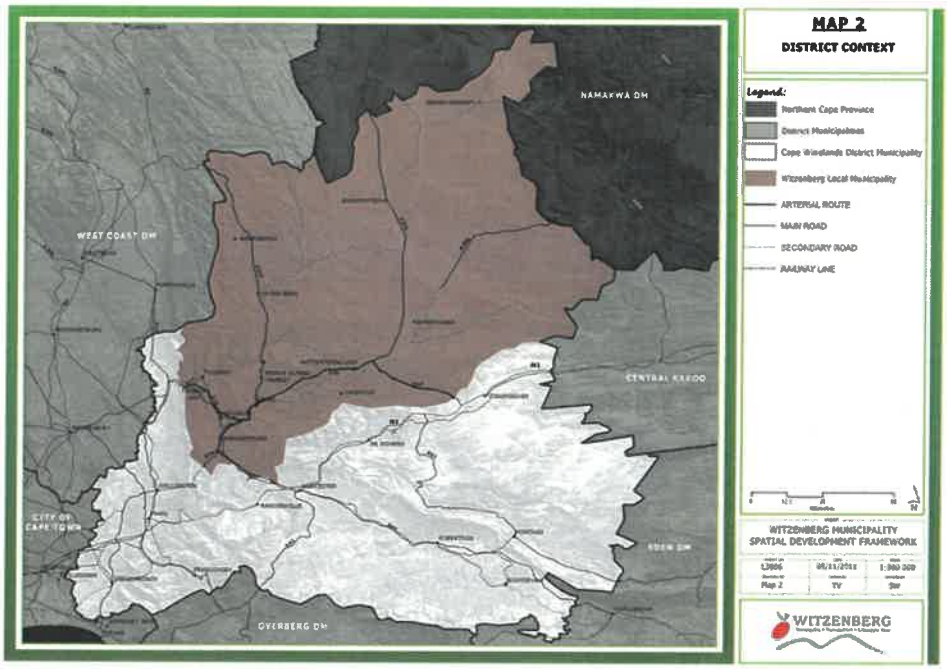


Figure A1.2: Cape Winelands District Municipality

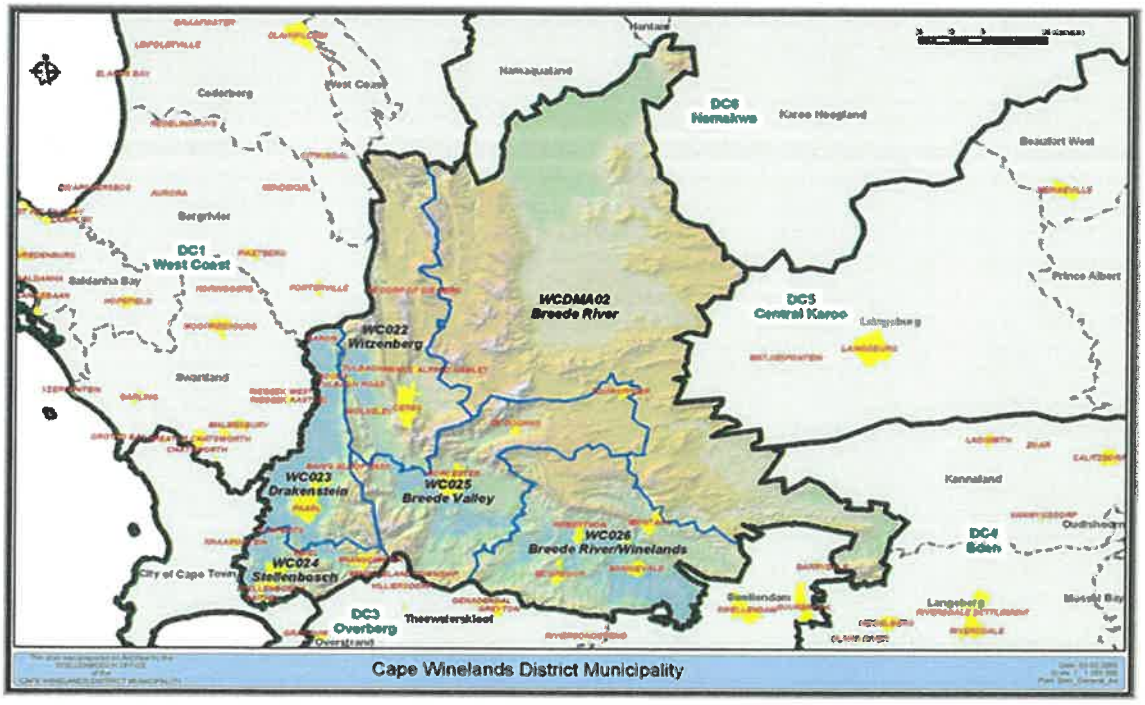


Figure A1.3: Local Context

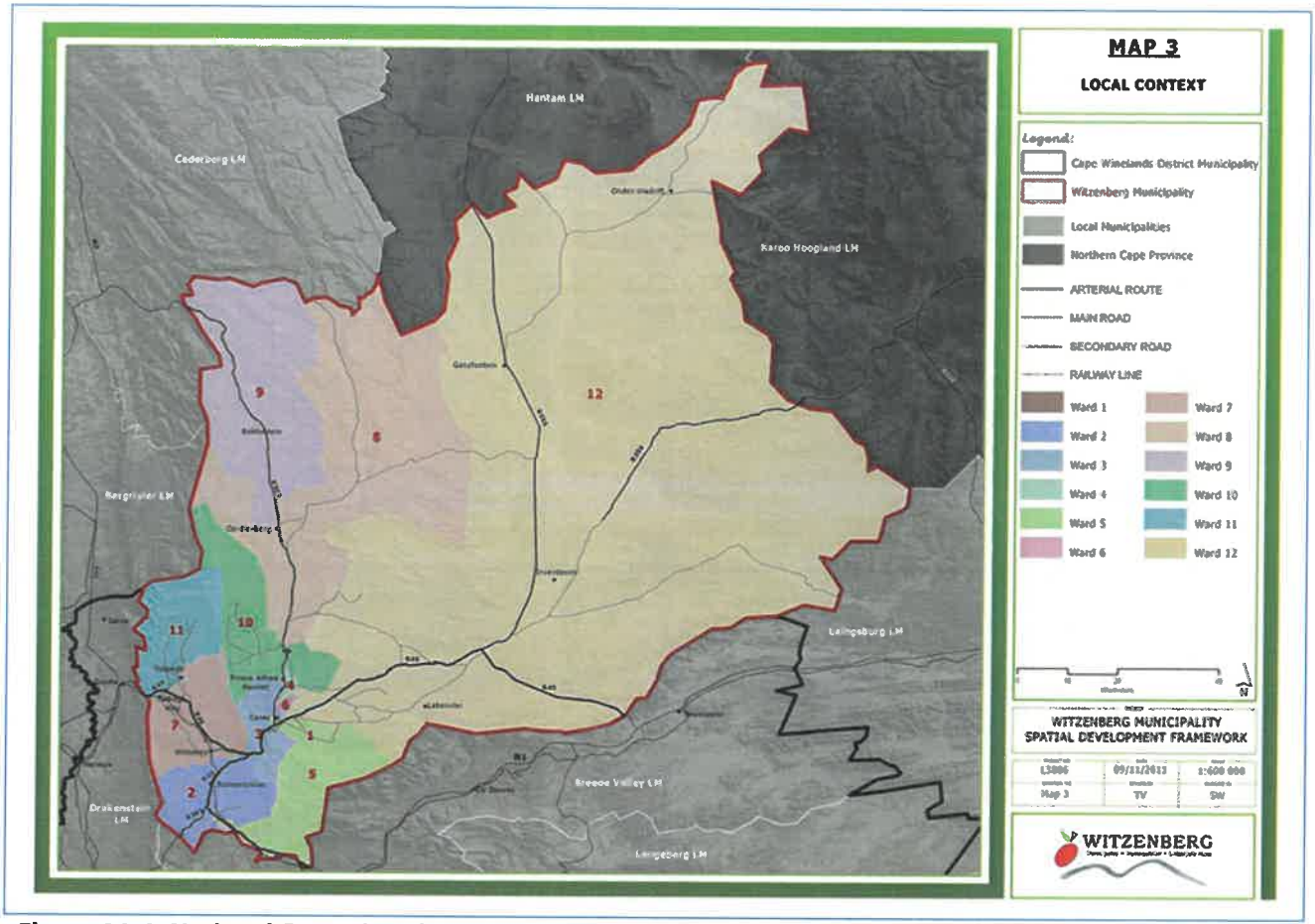


Figure A1.4: National & Provincial Context

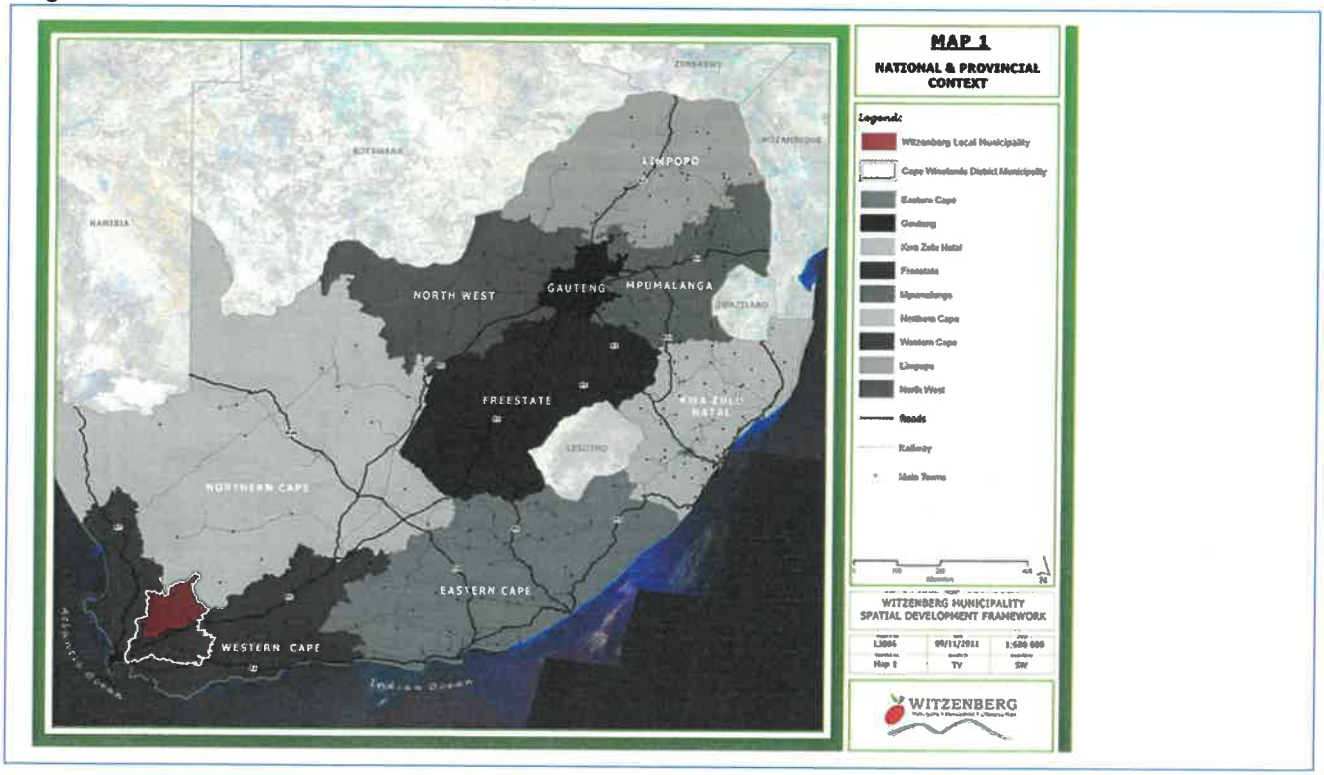


Figure A1.5: River Status

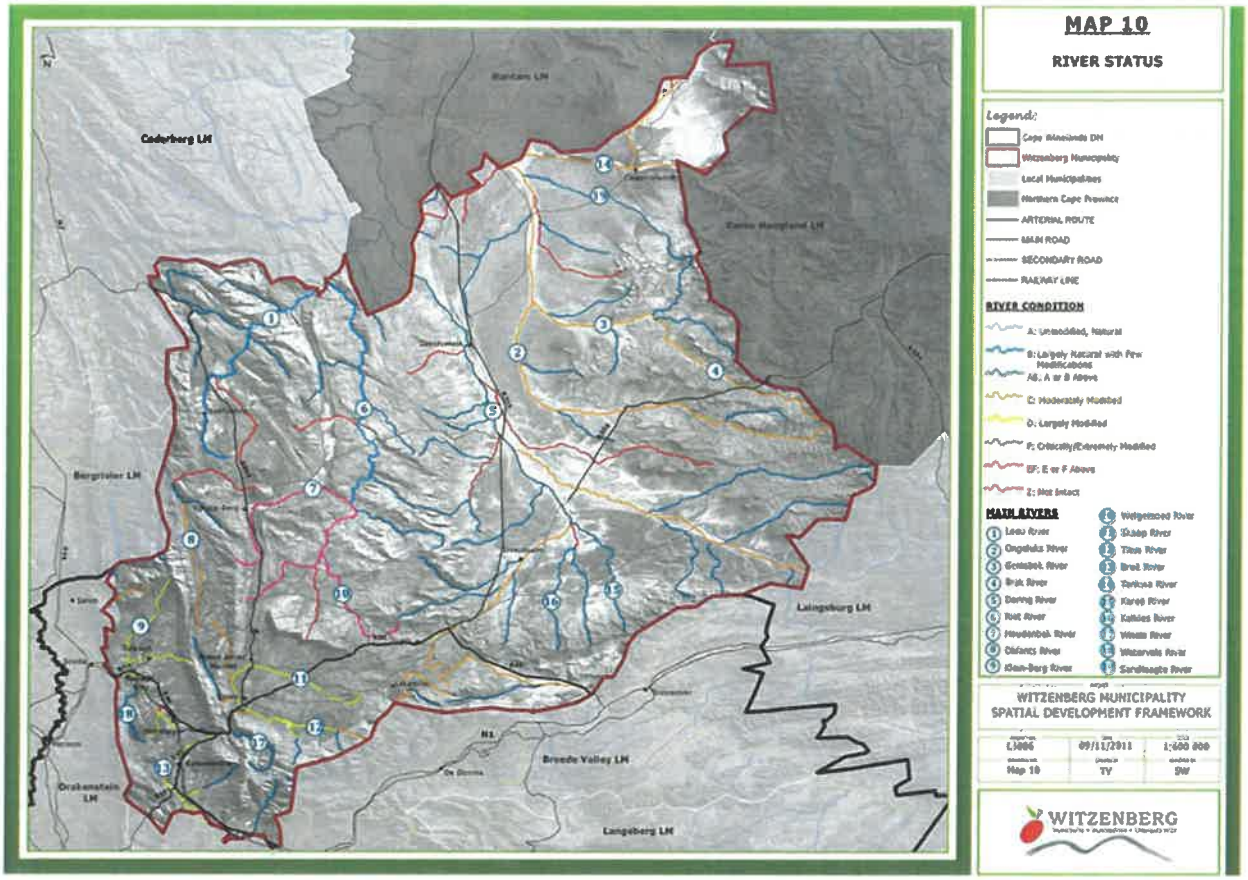


Figure A1.6: Topography

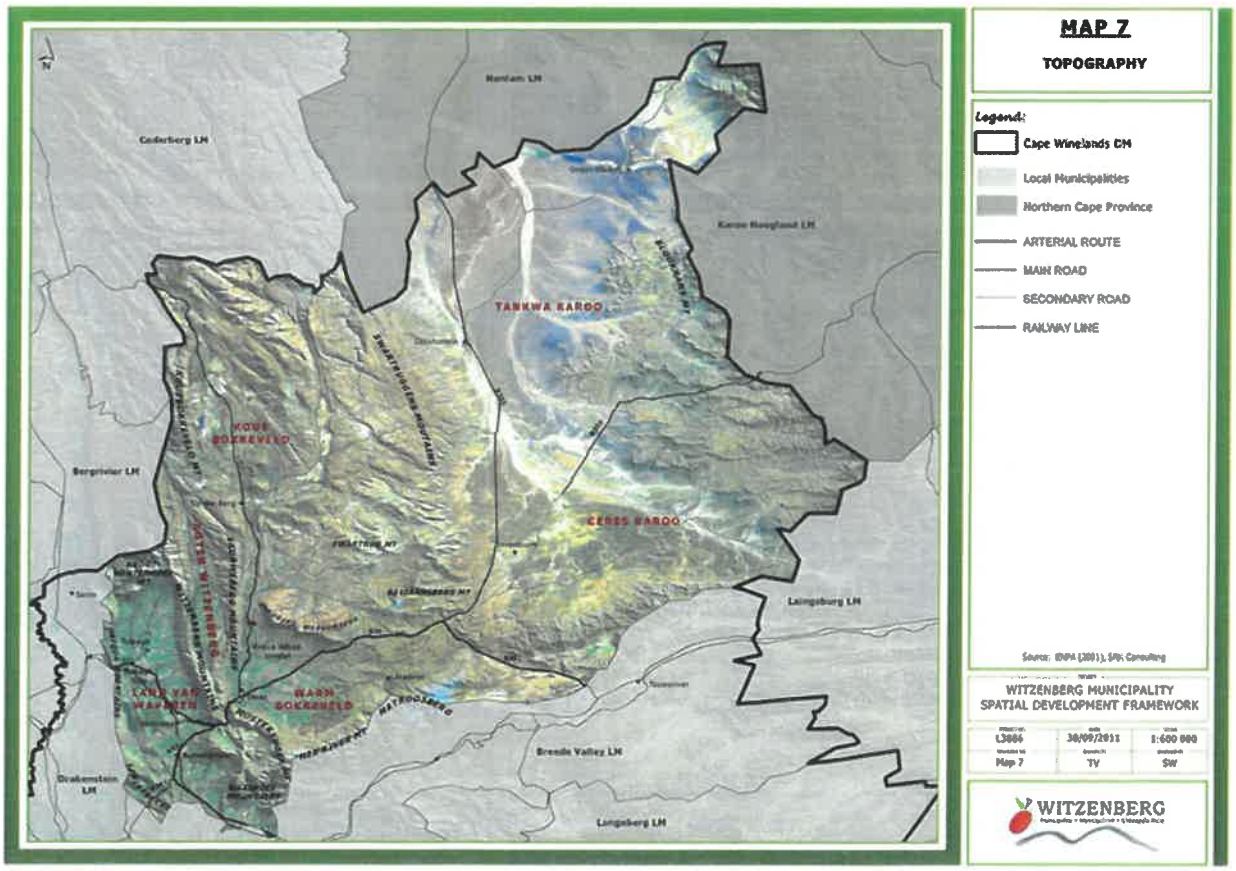
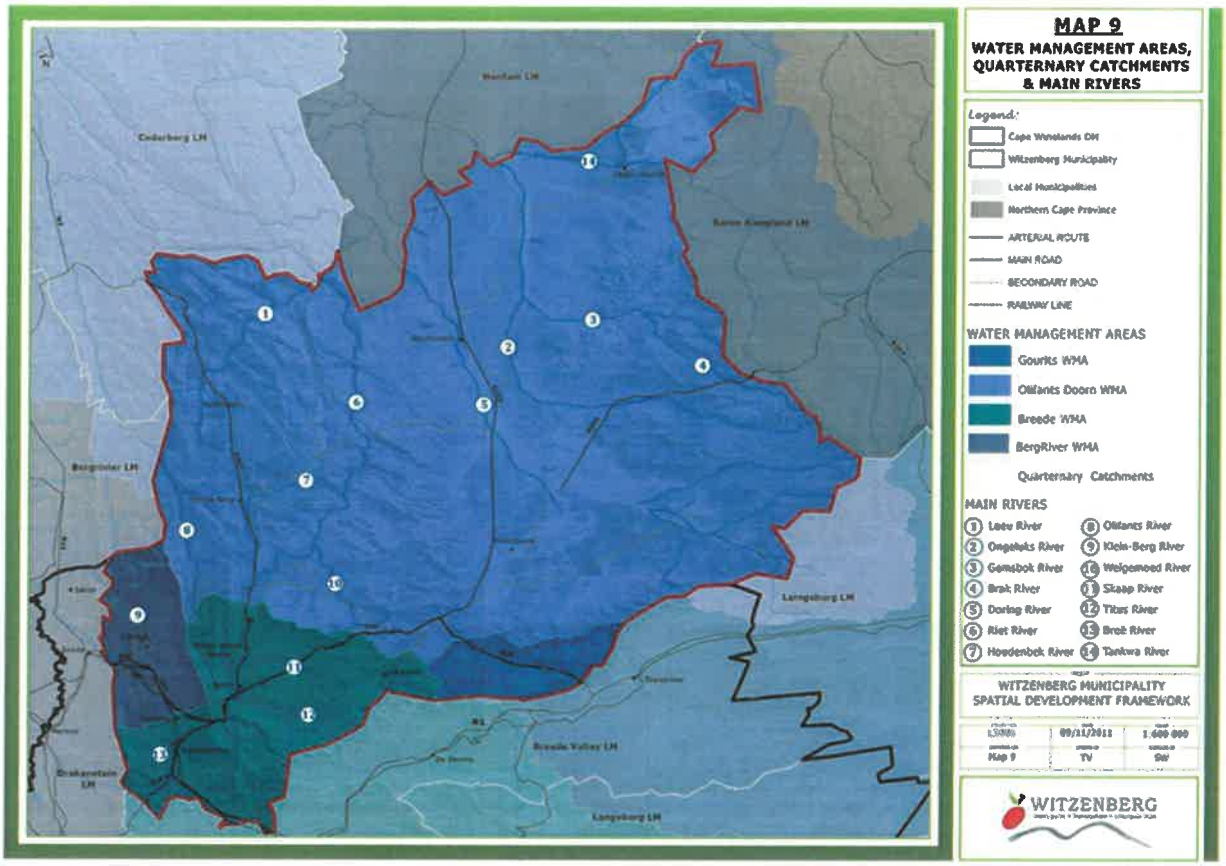


Figure A1.7: Water Management Areas



A2: Water services administration and organization

Table A2.1: Water services administrative structure

Accounting Officer	
Designation:	**Municipal Manager**
Name:	**David Nasson**
Telephone Nr:	**023 316 1854**
Fax Nr:	
Cell Nr:	**083 647 5909**
Email:	**david@witzenberg.gov.za**
Director: Technical Services	
Designation:	**Director: Technical Services**
Name:	**Joseph Barnard**
Telephone Nr:	**023 316 8540**
Fax Nr:	**023 3123472**
Cell Nr:	**078 095 3365**
Email:	**joseph@witzenberg.gov.za**
Chief Financial Officer	
Designation:	**Acting Director: Finance**
Name:	**Andre Raubenheimer**
Telephone Nr:	**023 316 1854**
Fax Nr:	**023 3121495**
Cell Nr:	**082 884 1775**
Email:	**andre@witzenberg.gov.za**
WSDP Manager	
Designation:	**Manager: Water & Sewerage**
Name:	**Nathan Jacobs**
Telephone Nr:	**023 316 8540**
Fax Nr:	**023 3123472**
Cell Nr:	**071 670 3873**
Email:	**nathan@witzenberg.gov.za**
Project Coordinator	
Designation:	**Manager: Projects**
Name:	**Johan Swanepoel**
Telephone Nr:	**023 316 1854**
Fax Nr:	
Cell Nr:	**083 287 7747**
Email:	**jswan@witzenberg.gov.za**
IDP Manager	
Designation:	**IDP Manager**
Name:	**Adrian Hofmeester**
Telephone Nr:	**023 - 316 1854**
Fax Nr:	
Cell Nr:	**083 348 3606**
Email:	**adrian@witzenberg.gov.za**

A3: Water services overview

The Witzenberg Local Municipality (LM), founded in 2000, is classified as a Category B municipality and is responsible for basic service provision to the demarcated municipal area that includes the towns of Ceres, Tulbagh, Prince Alfred's Hamlet, Wolseley and Op-Die-Berg. The rural areas within the municipal boundary are Ceres Valley, Koue Bokkeveld, Achter-Witzenberg and the northern portion of Breede River Valley (Land van Waveren).

The climate in Witzenberg is known for its hot and dry summer days. Winds are seasonal and generally North-westerly or South-easterly. The average annual rainfall in Ceres is about 1 088 mm and the average temperature range is 2,4°C to 29,9°C.

The two largest sector contributors to the GDP are agriculture (35.6%) and the manufacturing sector (20.9%), growing on average at 2.1% and 10.6% respectively per annum. Within the manufacturing sector, the food, beverage sub-sector is clearly dominant, representing 69.4% of total manufacturing.

According to the Census of 2011, Witzenberg's population stands at 115 946 and the racial breakdown is 65.9% Coloured, 25.3% Black, 7.7% White, 0.2% Asians and 0.8% other. The following table shows the overall population breakdown within the specific areas (Census 2011)

Area	**Population**	**Population with 2.4% growth (2019)**
Witzenberg NU	52 200	64 620
Op –Die-Berg	1 530	1 894
Meulstroom	1 083	1 341
Tulbagh	8 969	11 103
Prince Alfred Hamlet	6 809	8 429
Bella Vista	33 232	41 127
Ceres		
eNduli		
Wolseley	12 132	15 019
Pine Valley		
Montana		
Total	**115 946**	**143 534**

The 2019 population of Witzenberg Municipality is based on a 2.4% growth rate over the 10 years. (2010/2011 to 2019/2020).

Witzenberg Municipality is responsible for the operation and maintenance of all water and sewerage infrastructure summarised as follows:

- 224km of water networks of different diameter
- 199 km of sewer networks of different diameter
- 5 WTW of different capacities ranging from 0.7Ml/day to 44Ml /day
- 4 WWTW of different capacities ranging from 0.3Ml / day to 8.5Ml / day
- 23 sewer pump stations of different capacities ranging from 2.6kw to 75kw
- 6 water pump stations of different capacities ranging from 11 – 85 l/s
- Servicing of septic tanks over an area of 10,753 km^2
- Provision and servicing of chemical toilets and standpipes in informal areas
- Bulk water supply including source, bulk networks, reservoirs and storage dams

The Water & Sanitation department consist of:

Ceres, Nduli and Bella Vista Sewer Network and Treatment	:	11
Ceres, Nduli and Bella Vista Water Network and Treatment	:	6
PAH & ODB Water & Sewer Network and Treatment	:	8
Wolseley Water & Sewer Network and Treatment	:	9
Tulbagh Water & Sewer Network and Treatment	:	9
Superintendent	:	1
Technician	:	1
Senior Technician	:	1
Manager	:	1
Total	:	47

The tables below give an overview of the water and sanitation services in Witzenberg Municipality's Management area.

Table A3.1: Water services overview

Settlement Type	2017/2018		2018/2019		2019/2020		Water category									
	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																
Formal Town							Adequate			Below RDP					None	
Ceres	2 435	12 292	2 381	12 587	2 431	12 889	✓	✓	✓							
Prince Alfred Hamlet	1 224	8 039	1 374	8232	1 355	8429	✓	✓	✓							
Op-die-Berg	542	1 806	543	1850	527	1894	✓	✓	✓							
Wolseley	2 546	14 323	2 550	14667	2 550	15019	✓	✓	✓							
Tulbagh	1 822	10 589	1 826	10843	1 807	11103	✓	✓	✓							
Sub-Total	**8 569**	**47 049**	**8 674**	**48 179**	**8 670**	**49 334**	**5**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Townships							Adequate			Below RDP					None	
Bella Vista	2 558	15891	2 554	16272	2 560	16663	✓	✓	✓							
Nduli	2 215	11039	2 215	11303	2 328	11575	✓	✓	✓							
Wolseley	1 120		1 059		1 079											
Tulbagh	829		812		1 610											
Prince Alfred Hamlet					242											
Sub-Total	**6 722**	**26 929**	**6 640**	**27 575**	**7 819**	**28 238**	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total: (Urban)	**15 291**	**73 978**	**15 314**	**75 754**	**16 489**	**77 572**	**7**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RURAL																
Rural Small Village							Adequate			Below RDP					None	
Example: Rural small village 1																
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rural Scattered							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working towns & service centres							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Farming							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total (Rural)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL	**15 291**	**73 978**	**15 314**	**75 754**	**16 489**	**77 572**	**7**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Section B: WSDP Performance Report

B1: WSDP reference and status

Table A3.1: Sewer services overview

Settlement Type	2017/2018		2018/2019		2019/2020		Sanitation category									
	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																
Formal Town							Adequate			Below RDP					None	
Ceres	2 268	12 292	2 734	12 587	2 762	12 889	✓	✓	✓							
Prince Alfred Hamlet	1 918	8 039	2 059	8232	2 066	8429	✓	✓	✓							
Op-die-Berg	530	1 806	475	1850	476	1894	✓	✓	✓							
Wolseley	2 653	14 323	2 606	14667	2 610	15019	✓	✓	✓							
Tulbagh	1 915	10 589	1 835	10843	1 843	11103	✓	✓	✓							
Sub-Total	**9 284**	**47 049**	**9 709**	**48 179**	**9 757**	**49 334**	**5**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Townships							Adequate			Below RDP					None	
Bella Vista	2 571	15891	2 579	16272	2 583	16663	✓	✓	✓							
Nduli	2 219	11039	2 222	11303	2 338	11575	✓	✓	✓							
Wolseley	1 120		1 059		1 079											
Tulbagh	829		812		1 610											
Prince Alfred Hamlet					242											
Sub-Total	**6 739**	**26 929**	**6 672**	**27 575**	**7 852**	**28 238**	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total: (Urban)	**16 023**	**73 978**	**16 381**	**75 754**	**17 609**	**77 572**	**7**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RURAL																
Rural Small Village							Adequate			Below RDP					None	
Example: Rural small village 1																
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rural Scattered							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Working towns & service centres							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Farming							Adequate			Below RDP					None	
	0	0	0	0	0	0										
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sub-Total (Rural)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL	**16 023**	**73 978**	**16 381**	**75 754**	**17 609**	**77 572**	**7**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

The table below gives an overview of the Municipality's WSDP status.

Table B1.1: WSDP- and reporting reference

Nr	WSDP Title and Reference	Status	Date	WSDP Year	Financial Year	Reporting year
1	Witzenberg Municipality: Water Services Development Plan 2011/2012	Drafted:	2011/11/30	Year 1	**2011/2012**	Year -5
		Comment submit:	2011/12/29	Year 2	**2012/2013**	Year -4
		Finalised:	2012/02/28	Year 3	**2013/2014**	Year -3
		Adopted:	2012/03/29	Year 4	**2014/2015**	Year -2
		Published:	2012/05/02	Year 5	**2015/2016**	Year -1
2	Witzenberg Municipality: Water Services Development Plan 2016/2017	Drafted:	2017/09/15	Year 1	**2016/2017**	Year 0
		Comment submit:	2017/10/17	Year 2	**2017/2018**	Year 1
		Finalised:	2017/10/30	Year 3	**2018/2019**	Year 2
		Adopted:	Approved	Year 4	**2019/2020**	Year 3
		Published:	To be published	Year 5	**2021/2022**	Year 4

Legend:

- Past Financial Years
- Previous Financial Year (financial year of reporting)
- Future Years

B2: Performance on water services objectives and strategies

The IDP is the Municipality's single most strategic document that drives and directs all implementation and related processes. The Municipality's budget is developed based on the priorities, programmes and projects of the IDP, after which a Service Delivery Budget Implementation Plan (SDBIP) is developed, to ensure that the organisation actually delivers on the IDP targets.

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.

Finally, the Annual Report, of which the Water Services Audit Report forms a part, records the success or otherwise of the previous year's implementation.

Table B2.1+K9+A1:G20+A1:G24+A1:G23+A1:G22+A1:G21+K9+A1:G20+A1:G20+A1:I20+A1:I19+A1:I18+A1:K1

Nr	Objective / Strategy	Key Performance Indicator	Inclusion (yes/no)		WSDP Year 3 2017/2018		WSDP Year 4 2018/2019		WSDP Year 5 2019/2020	
			WSDP	IDP	Target	Actual	Target	Actual	Target	Actual
WSDP Topic 1: Administration										
	EXAMPLE									
	Ensure proactive water services development planning and regulatory compliance									
1,1	*Develop and adopt a new WSDP every 5 years*	*New WSDP every 5 years*			*none*		*none*		*none*	
1,2	*Compile and submit annual WSDP implementation- and water services audit report*	*Date submitted*			*October every year*	*2018/12/11*	*October every year*	*2019/11/01*	*October every year*	*2020/11/20*
WSDP Topic 2: Demographics										
2.1	**N/A**									
etc.										
WSDP Topic 3: Service levels										
3.1	**Percentage compliance with drinking water quality standards.**	Percentage compliance with drinking water quality standards.	Yes	Yes	100	*100*	100	*100*	100	*100*
3,2	**Provide basic services - number of informal areas with sufficient communal water service points (taps).**	Provide basic services - number of informal areas with sufficient communal water service points (taps).	Yes	Yes	3	*3*	3	*3*	3	*3*
3,3	**Provide basic services - number of informal areas with sufficient communal sanitation service points(toilets).**	Provide basic services - number of informal areas with sufficient communal sanitation service points(toilets).	Yes	Yes	3	*3*	3	*3*	3	*3*
etc.										

WSDP Topic 4: Socio economic										
4.1	**NA**									
etc.										
WSDP Topic 5.1: Water Services Infrastructure management										
5,1,1	**Repair breaks within 24 Hours after water break has been reported to call centre**	Repair breaks within 24 Hours after water break has been reported to call centre	Yes	Yes	100%	100%	100%	100%	100%	100%
5,1,2	**Water assets is maintained in terms of the maintenance budget**	Water assets is maintained in terms of the maintenance budget.	Yes	Yes	95	*99*	95	*99*	98	*86,79*
etc.										
WSDP Topic 5.2: Wastewater Services Infrastructure management										
5.2.1	**Regular inspection at pump stations to inspect for faulty, damage or defective equipment and infrastructure at the pump station**	Regular inspection at pump stations to inspect for faulty, damage or defective equipment and infrastructure at the pump station	Yes	Yes	23	*23*	23	*23*	23	*23*
5.2.2	**Sanitation assets is maintained in terms of the maintenance budget**	Sanitation assets is maintained in terms of the maintenance budget	Yes	Yes	95	*99*	95	*99*	98	*92,67*
etc.										
WSDP Topic 6: Associated services										
6.1	**NA**									
etc.										

WSDP Topic 7.1: Conservation and Demand management (Water Resource Management)										
7,1,1	**Repair faulty meters received per list from finance within 20 days.**	Repair faulty meters received per list from finance within 20 days.	Yes	Yes	100	*100*	100	*100*	100	*100*
etc.										
WSDP Topic 7.2: Conservation and Demand management (Water Balance)										
7,2,1	**Decrease unaccounted water losses.**	Decrease unaccounted water losses.	Yes	Yes	18	*17,91*	18	*17,73*	18	*15,04*
etc.										
WSDP Topic 8: Water Resources										
8.1	**Quality of waste water discharge measured by the overall average percentage water quality level within SANS and DWAF standards for microbiological, physical and chemical for all WWTW plants**	Quality of waste water discharge measured by the overall average percentage water quality level within SANS and DWS standards for microbiological, physical and chemical for all WWTW plants	Yes	Yes	90	*93*	90	*95*	90	*89*
etc.										
WSDP Topic 9: Financial profile										
9.1	**Submission of nr of water connections for the month to Finance Income section.**	Submission of nr of water connections for the month to Finance Income section.	Yes	Yes	1	*1*	1	*1*	1	*1*
9,2	**Submission of nr of sewer connections for the month to Finance Income section.**	Submission of nr of sewer connections for the month to Finance Income section.	Yes	Yes	1	*1*	1	*1*	1	*1*
etc.										

WSDP Topic 10: Institutional Arrangements profile											
10.1	**None**										
etc.											
WSDP Topic 11: Social and Customer service requirements											
11.1	**Repair breaks within 24 Hours after water break has been reported to call centre.**	Repair breaks within 24 Hours after water break has been reported to call centre.	Yes	Yes	100	*100*	100	*100*	100	*100*
	Sewerage blockage removals within 24 hours from receipt of the complaint by the control room	Sewerage blockage removals within 24 hours from receipt of the complaint by the control room	Yes	Yes	100	*100*	100	*100*	100	*100*
etc.										

The following performance highlights may be presented for the past financial year:

Water services:

Upgrading & replacement of infrastructure:

- Upgrading of bulk supply pipelines
- Replacement of various pipe networks and valves
- Meter replacement program
- Water demand Study to minimise Un-accounted water losses

Sanitation services:

New Infrastructure & upgrades:

- Replacement of various sewer networks within Witzenberg.
- Purchasing of additional aerators.
- Purchasing of additional sewer pumps.
- WWTW refurbishments: Ceres and Tulbagh WWTW

B3: Status of water services projects

Witzenberg Municipality completed the following water capital projects during the last financial year:

Table B3.1: Water Services projects status and performance

Nr	Project Title and Description	Inclusion		Total Project Cost R'000	Year 0 Performance - FY2019/2020			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		
Water services													
1	Tools & Equipment New	Yes	Yes	R287	R287	R287	100%	CRR	Water	2019/20	2019/20	Completed	
2	Tulbagh Dam	Yes	Yes	R204	R204	R204	100%	RBIG	Water	2019/20	2019/20	Completed	
3	Infrastructure Management System	Yes	Yes	R576	R576	R576	100%	CRR	Water	2019/20	2019/20	Completed	
4	Network - Water pipes & valves	Yes	Yes	R807	R807	R802	99%	CRR	Water	2019/20	2019/20	Completed	
	Total			**R1 875**	**R1 875**	**R1 870**	**100%**						

Witzenberg Municipality completed the following sewerage capital projects during the last financial year:

Table B3.1: Sanitation Services projects status and performance

Nr	Project Title and Description	Inclusion		Total Project Cost R'000	Year 0 Performance - FY2018/2019			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		
Sanitation services													
1	Refurbishment WWTW	Yes	Yes	R596	R596	R596	100%	CRR	Sanitation	2019/20	2019/20	Completed	
2	Security upgrades	Yes	Yes	R188	R188	R188	100%	CRR	Sanitation	2019/20	2019/20	Completed	
3	Sewer pumps - replacement	Yes	Yes	R243	R243	R243	100%	CRR	Sanitation	2019/20	2019/20	Completed	
4	Aerator replacement programme	Yes	Yes	R704	R704	R704	100%	CRR	Sanitation	2019/20	2019/20	Completed	
5	Sewer network replacement	Yes	Yes	R1 231	R1 231	R1 194	97%	CRR	Sanitation	2019/20	2019/20	Completed	
6	Tools & Equipment New	Yes	Yes	R23	R23	R23	100%	CRR	Sanitation	2019/20	2019/20	Completed	
	Total			**R2 986**	**R2 986**	**R2 949**	**99%**						

B4: Past financial year water services project impact declaration

The impacts of the water and sewerage capital projects which were implemented in the previous financial year by Witzenberg Municipality (2019/2020)

Table B4.1: Past financial year project impact declaration

Nr	Project Title and Description	Project Category	Settlements which benefitted	Nr Beneficiaries		Impact Declaration
				HH's	Pop	
1	Tools & Equipment New	*Supply*	*Witzenberg*	16489	77572	*Secure infrastructure*
2	Tulbagh Dam	*Drought Relief*	*Tulbagh*	3417	11103	*Drought Relief*
3	Infrastructure Management System	*Reticulation*	*Witzenberg*	16489	77572	*Secure infrastructure*
4	Network - Water pipes & valves	*Reticulation*	*Witzenberg*	16489	77572	*Upgrade old infrastructure*
5	Refurbishment WWTW	*Treatment / Compliance*	*Witzenberg*	16489	77572	*Secure compliance*
6	Security upgrades	*Reticulation*	*Witzenberg*	16489	77572	*Secure infrastructure*
7	Sewer pumps - replacement	*Reticulation*	*Witzenberg*	16489	77572	*Secure infrastructure*
8	Aerator replacement programme	*Treatment / Compliance*	*Witzenberg*	16489	77572	*Secure compliance*
9	Sewer network replacement	*Reticulation*	*Witzenberg*	16489	77572	*Upgrade old infrastructure*
10	Tools & Equipment New	*Supply*	*Witzenberg*	16489	77572	*Secure infrastructure*
	TOTAL					

Section C: Water Services Audit Report

C1. Quantity of water services provided (Water Balance)

Table C1.1: Quantity of water services provided / water balance

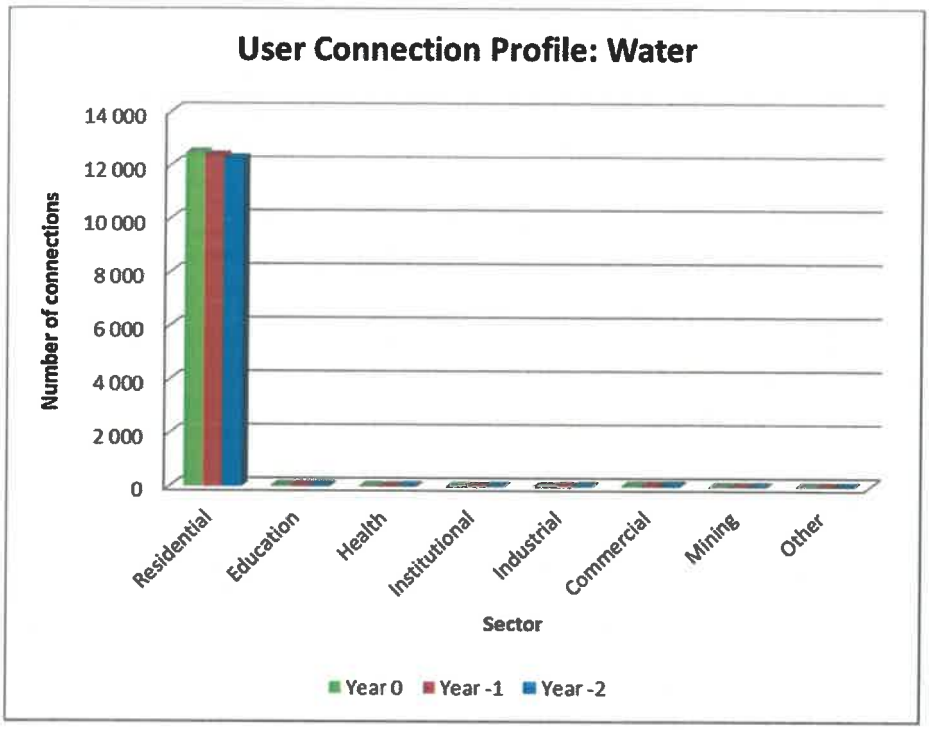
WSDP Ref. #	Regulations Ref. #	Description	m^3 per annum			Ml/d		
			Year 0	Year - 1	Year - 2	Year 0	Year - 1	Year - 2
			FY2019/20	FY2018/19	FY2017/18	FY2019/20	FY2018/19	FY2017/18
		RAW WATER						
7.2.1		Surface water purchased						
7.1 / 7.2.2		Surface water abstracted *						
7.1 / 7.2.3		Ground water abstracted						
7.2.14		Effluent recycled						
7.2.4		*less* Raw water supplied to others						
7.2.5		**Sub-Total: Raw Water supplied**		**0**	**0**		**0,00**	**0,00**
	10.2 (g) (i)	**BULK WATER SUPPLY**						
7.2.6		Volume of water treated	6708325	6408993	5 781 197	18,38	17,56	15,84
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	**6708325**	**6 408 993**	**5 781 197**	**18,38**	**17,56**	**15,84**
		WATER CONSUMPTION						
7.2.8.1		Billed Metered:	4 113 694	3 816 636	3 843 255	11,27	10,46	10,53
	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	1586010	1456038	902 543	4,35	3,99	2,47
	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						
	10.2 (g) (i)	**Sub-Total: Authorized consumption**	**5 699 704**	**5 272 674**	**4 745 798**	**15,62**	**14,45**	**13,00**
		UNACCOUNTED FOR WATER						
7.3.1		Raw water bulk loss						
7.2.3/7.2.4		Billing losses						
7.2.5		Apparent losses						
7.2.5.1		Illegal connections						
7.2.5.2		Inaccurate meters						
7.2.5.3		Data errors						
7.2.6		Real losses						
	10.2 (g) (ii)	**Sub-Total: Unaccounted for water**	**1 008 621**	**1 136 319**	**1 035 399**	**2,76**	**3,11**	**2,84**
		WASTEWATER TREATMENT						
7.2.9	10.2 (a) (iii)	Total received at WWTW	2798255	2543320	2 540 035	7,67	6,97	6,96
7.2.11		Total discharged	2518430	2288988	2 286 032	6,90	6,27	6,26
7.2.13		Returned to environment	2518430	2288988	2 286 032			
7.2.14		Recycled						
	10.2 (a) (iv)	**Quantity of water supplied not discharged to WWTW's**	**2 901 449**	**2 729 354**	**2 205 763**	**7,95**	**7,48**	**6,04**

Table C1.2: Quantity of water services provided / water balance (Ml/d)

Table C2.1: User Connection Profile

WSDP Ref. #	Category of users	Water Services						
		Year 0 FY2019/20		Year 1 FY2018/19		Year 1 FY2017/18		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3,3	Metered: Uncontrolled		0%		0%		0%	0
3,3	Metered: Controlled*	12 462	76%	12 347	81%	12 246	80%	115
	Unmetered (flat rate)		0%		0%		0%	0
	Communal water supply	4 027	24%	2 967	19%	3 045	20%	0
	Sub-Total: Residential	**16 489**	**100%**	**15 314**	**100%**	**15 291**	**100%**	**115**
	EDUCATION							
3,3	Schools	48	0%	48	0%	47	0%	0
	Tertiary educaton facilities		0%		0%		0%	0
	Sub-Total: Education	**48**	**0%**	**48**		**47**		**0**
	HEALTH							
3,3	Clinics	14	0%	14	0%	14	0%	0
3,3	Hospitals	2	0%	2	0%	2	0%	0
3,3	Health Centres		0%		0%		0%	0
	Sub-Total: Health	**16**	**0%**	**16**	**0%**	**16**	**0%**	**0**
	INSTITUTIONAL							
	Public Institutions		0%		0%		0%	0
3,3	Magistrate Offices	2	0%	2	0%	2	0%	0
3,3	Police Stations	3	0%	3	0%	5	0%	0
3,3	Prisons	3	0%	3	0%	3	0%	0
	etc		0%		0%		0%	0
	Sub-Total: Institutional	**8**	**0%**	**8**	**0%**	**10**	**0%**	**0**
	INDUSTRIAL							
3,3	Dry industries		0%		0%		0%	0
3,3	Wet industries	23	0%	23	0%	23	0%	0
	Sub-Total: Industrial	**23**	**0%**	**23**	**0%**	**23**	**0%**	**0**
	COMMERCIAL							
3,3	Businesses	48	0%	48	0%	48	0%	0
3,3	Office Buildings		0%		0%		0%	0
	Sub-Total: Commercial	**48**	**0%**	**48**	**0%**	**48**	**0%**	**0**
	MINING							
			0%		0%		0%	0
	Sub-Total: Mining	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**
	OTHER							
	Agriculture		0%	0	0%	0	0%	0
	Churches		0%	0	0%	0	0%	0
	Unknown		0%	0	0%	0	0%	0
	Sub-Total: Other	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**
	TOTAL	**16 489**	**100%**	**15 314**	**100%**	**15 291**	**100%**	**115**

C2. Water services delivery profile



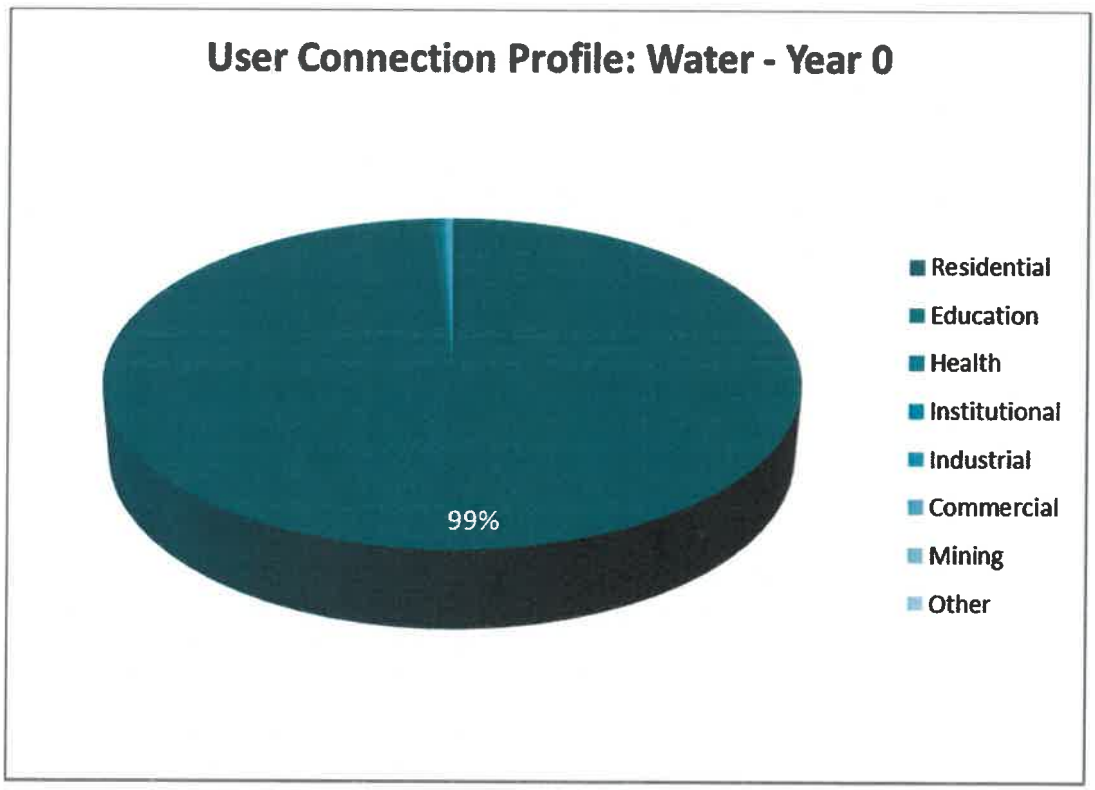


Table C2.1.2: User connection profile: Wastewater

Table C2.1: User Connection Profile

WSDP Ref. #	Category of users	Wastewater Services						
		Year 0 FY2018/19		Year 1 FY2017/18		Year - 2 FY2016/17		New Connections Year 0
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3,3	Metered: Uncontrolled		0%		0%		0%	
3,3	Metered: Controlled*	13 582	77%	13 414	79%	11 544	84%	168
	Unmetered (flat rate)	0	0%	0	0%	0	0%	0
	Communal water supply	4 027	23%	2 967	20%	3 820	15%	
	Sub-Total: Residential	**17 609**	**100%**	**16 381**	**99%**	**15 364**	**99%**	**168**
	EDUCATION							
3,3	Schools	47	0%	47	0%	47	0%	0
	Tertiary educaton facilities		0%		0%		0%	0
	Sub-Total: Education	**47**	**0%**	**47**	**0%**	**47**	**0%**	**0**
	HEALTH							
3,3	Clinics	14	0%	14	0%	14	0%	0
3,3	Hospitals	2	0%	2	0%	2	0%	0
3,3	Health Centres		0%		0%		0%	0
	Sub-Total: Health	**16**	**0%**	**16**	**0%**	**16**	**0%**	**0**
	INSTITUTIONAL							
	Public Institutions		0%		0%		0%	0
3,3	Magistrate Offices	2	0%	2	0%	2	0%	0
3,3	Police Stations	3	0%	3	0%	5	0%	0
3,3	Prisons	3	0%	3	0%	3	0%	0
	etc		0%		0%		0%	0
	Sub-Total: Institutional	**0**	**0%**	**8**	**0%**	**10**	**0%**	**0**
	INDUSTRIAL							
3,3	Dry industries		0%		0%		0%	0
3,3	Wet industries	23	0%	23	0%	23	0%	0
	Sub-Total: Industrial	**23**	**0%**	**23**	**0%**	**23**	**0%**	**0**
	COMMERCIAL							
3,3	Businesses	48	0%	48	0%	48	0%	0
3,3	Office Buildings		0%		0%		0%	0
	Sub-Total: Commercial	**48**	**0%**	**48**	**0%**	**48**	**0%**	**0**
	MINING							
			0%		0%		0%	0
	Sub-Total: Mining	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**
	OTHER							
	Agriculture		0%	0	0%	0	0%	0
	Churches		0%	0	0%	0	0%	0
	Unknown		0%	0	0%	0	0%	0
	Sub-Total: Other	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**
	TOTAL	17 609	100%	16 381	100%	15 364	100%	168

Figure C2.1.4: User connection profile for wastewater

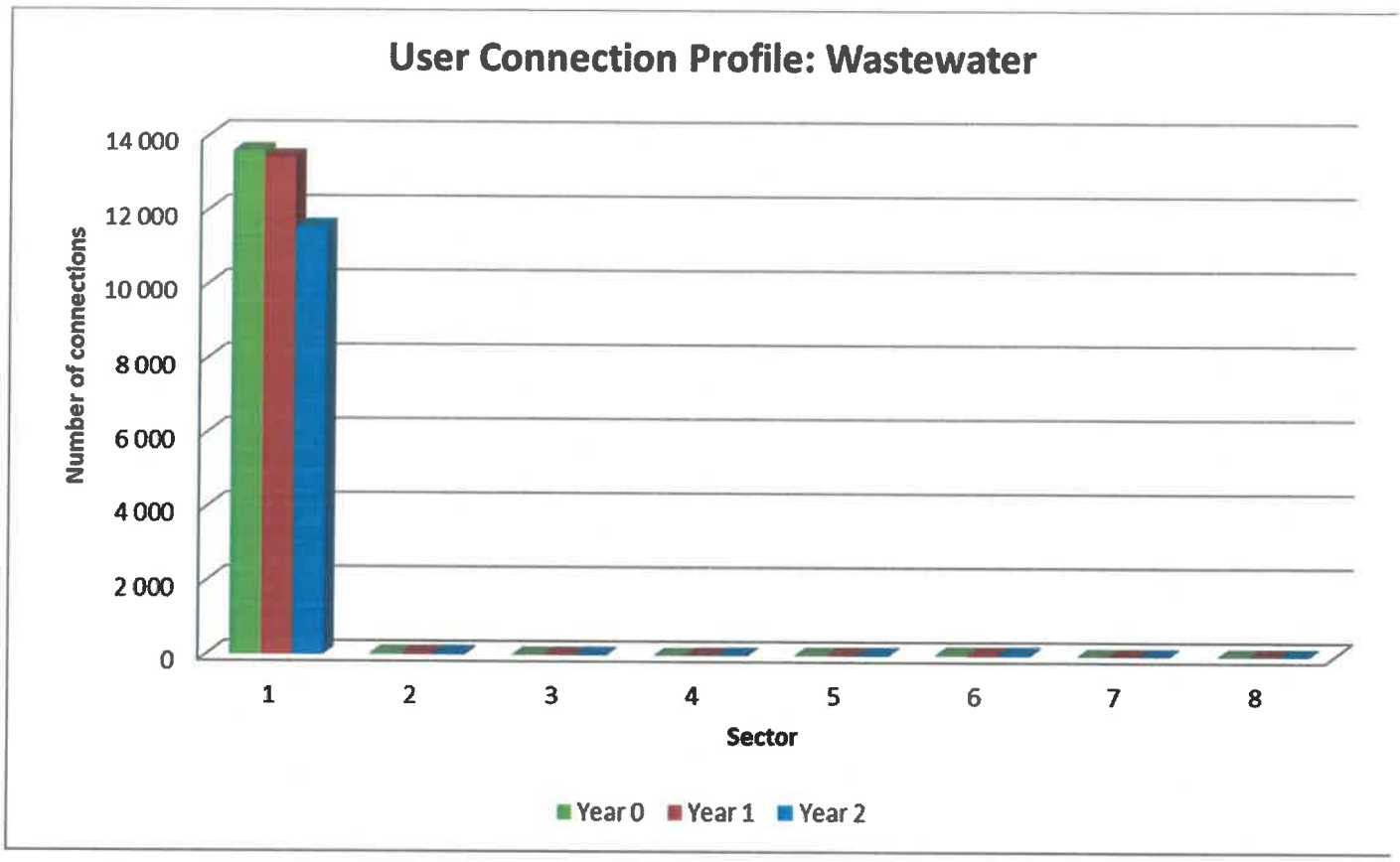
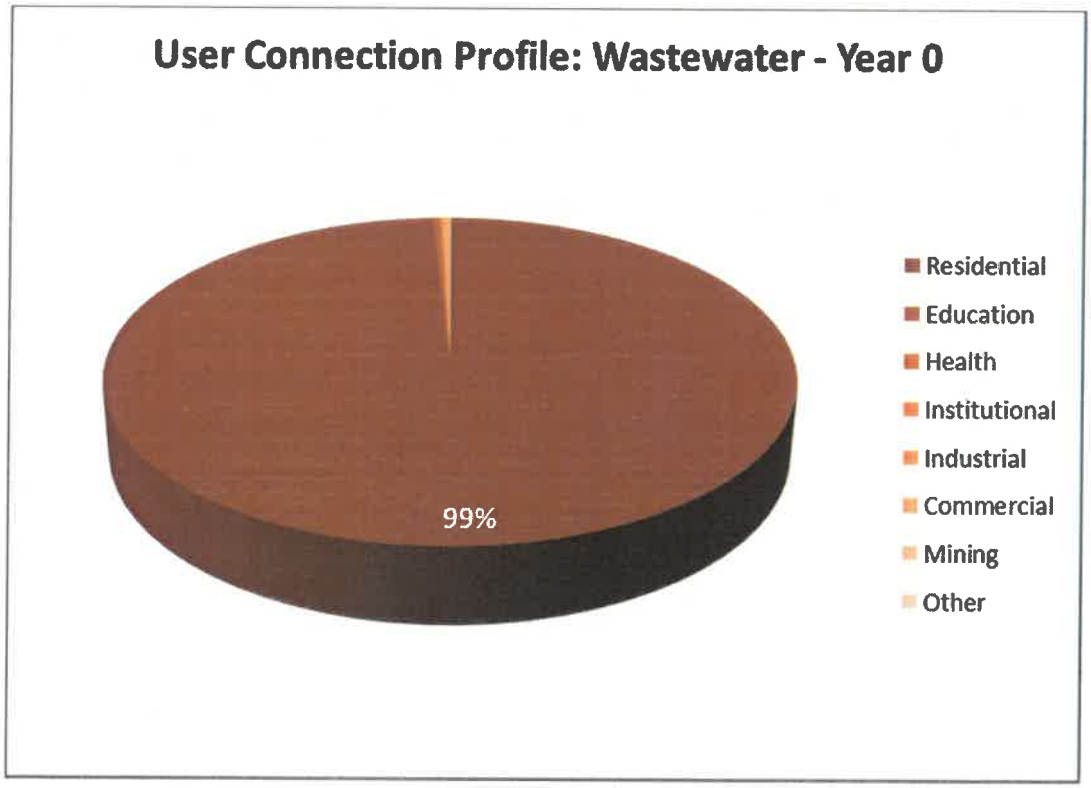


Figure C2.1.5: User connection distribution for wastewater - Year 0



C2.2 Residential water services delivery access profile

Table C2.2 (a): Residential water services delivery access profile: Water

Census Category	Description	Year 0 FY2019/20		Year 1 FY2018/19		Year 2 FY2017/18	
		Nr	%	Nr	%	Nr	%
	WATER (ABOVE MIN LEVEL)						
Piped (tap) water inside dwelling/institution	House connections	12 462	76%	12 347	83%	12 246	80%
Piped (tap) water inside yard	Yard connections						
Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Standpipe connection < 200 m	4 027	24%	2 531	17%	3 045	20%
	Sub-Total: Minimum Serivce Level and Above	**16 489**	**100%**	**14 878**	**100%**	**15 291**	**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						
Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling /institution	Standpipe connection: > 500 m < 1 000 m	0	0%	436	3%	0	0%
Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	Standpipe connection: > 1 000 m						
No access to piped (tap) water	No services	0	0%	0	0%	0	0%
	Sub-Total: Below Minimum Service Level	**0**	**0%**			**0**	**0%**
	Total number of households	**16 489**	**100%**	**14 878**	**100%**	**15 291**	**100%**

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

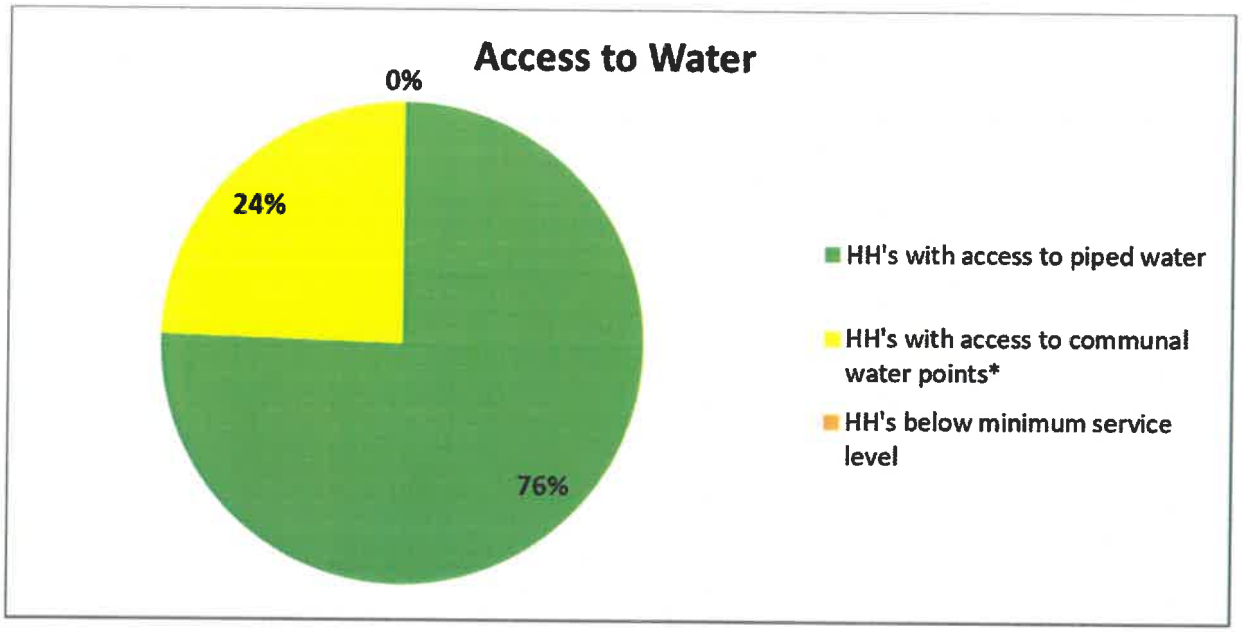


Table C2.2.2: Residential water services delivery access profile: Sanitation

Table C2.2 (b): Residential water services delivery access profile: Sanitation

Census Category	Description	Year 0 FY2019/20		Year 1 FY2018/19		Year 2 FY2017/18	
		Nr	%	Nr	%	Nr	%
	SANITATION (ABOVE MIN LEVEL)						
Flush toilet (connected to sewerage system)	Waterborne	12 865	73%	12 697	77%	11 544	79%
	Waterborne: Low Flush	0	0%	0	0%	0	0%
Flush toilet (with septic tank)	Septic tanks / Conservancy	717	4%	717	4%	717	5%
Chemical toilet	Non-waterborne (above min. service level)	56	0%	28	0%	58	0%
Pit toilet with ventilation (VIP)		0	0%	0	0%	0	0%
Other		4 027	23%	3 045	18%	2 226	15%
	Sub-Total: Minimum Serivce Level and Above	**17 609**	**100%**	**16 487**	**100%**	**14 545**	**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	**17 609**	**100%**	**16 487**	**100%**	**14 545**	**100%**

Figure C2.2.2: Household sanitation access profile

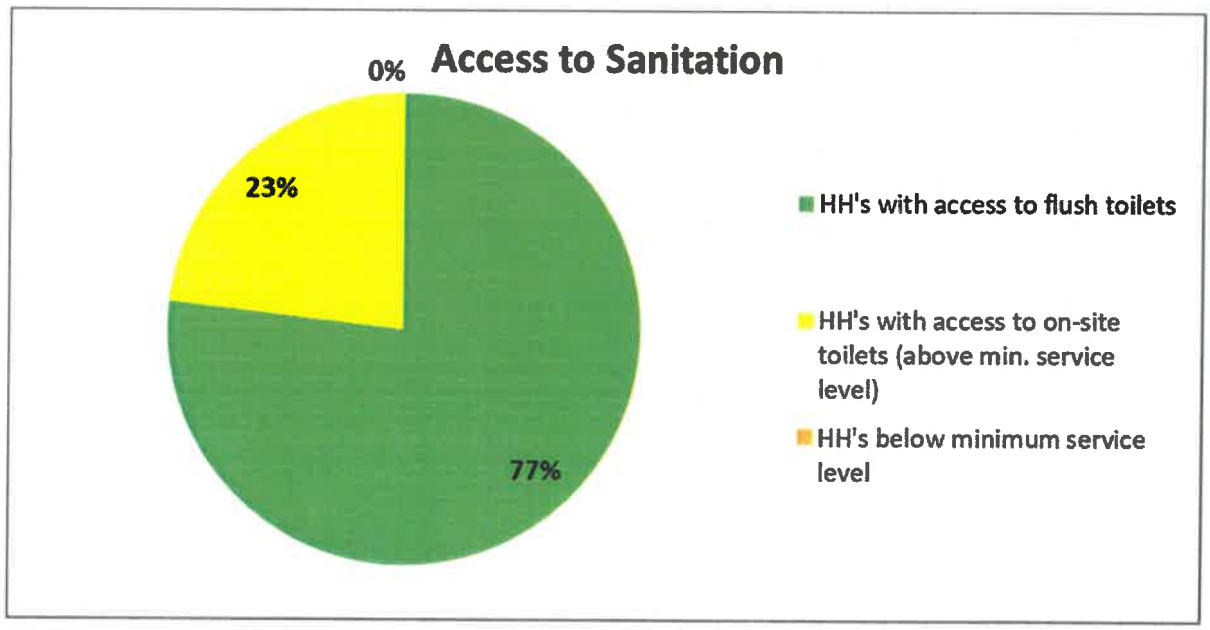
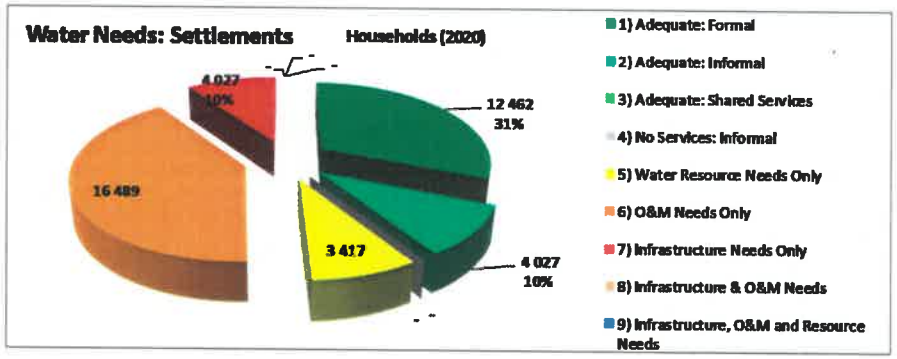
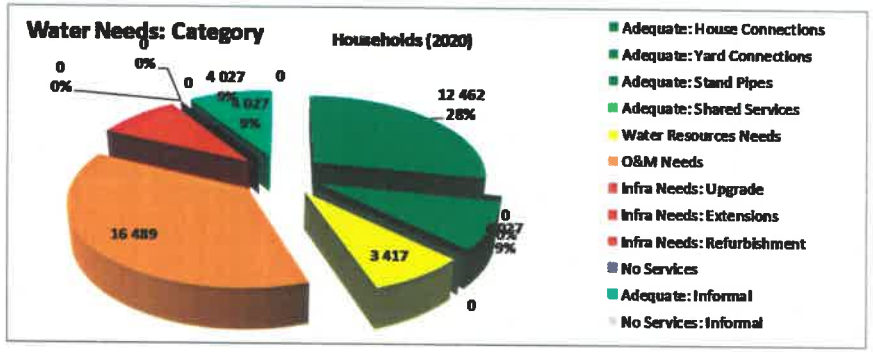


Table C2.3 (a): Residential water services delivery adequacy profile (Water)

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	12 462	76%			4 027	24%																		
2	23																					4 027	100%		
3	0																								
4	29																								
5	0									3 417	100%														
6	0											16 489	100%												
7	3													4 027	100%										
8	0																								
9	0																								
10	0																								
Total Household interventions required		12 462		0		4 027		0		3 417		16 489		4 027		0		0		0		4 027		0	



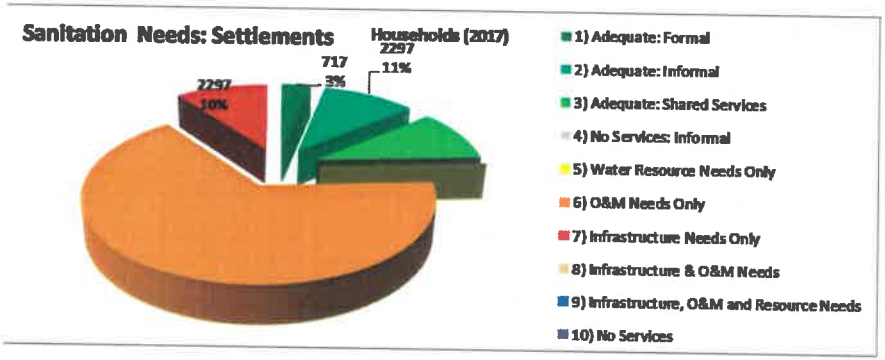


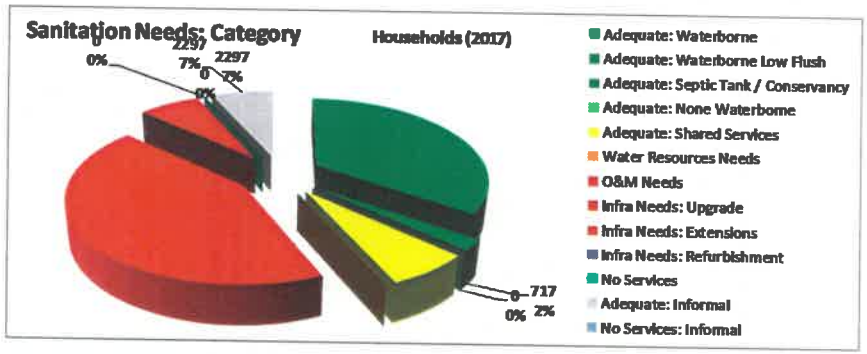
1	Adequate	3	Adequate: Shared services	5	Water Resources Needs Only	7	Infrastructure Needs Only	9	Infrastructure, O&M & Resource Needs
2	Adequate: Informal	4	No Services: Formal	6	O & M Needs Only	8	Infrastructure& O&M needs	10	No Services

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

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

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	6	12 865	73%			717	4%																				
2	1																										
3	49									4 027	23%													4 027	100%		
4	0																										
5	0																										
6	0													17 609	100%												
7	6																										
8	0																										
9	0																										
10	2																										
Total Household interventions required		12 865		0		717		0		4 027		0		17 609		0		0		0		0		4 027		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

C3. Cost recovery and free basic services

C3.1 Tariffs

Table C3.1.1: Tariffs for Water

Nr	Category	Sector	Unit	Tariff (VAT excluded)			% increase
				Year 0	Year -1	Year - 2	Year 0
				FY2019/20	FY2018/19	FY2017/18	
1,1	**BASIC CHARGES**						
	Unimproved Sites		Consumer	R 125,36	R 118,26	R 108,29	
	Water Connection size: 0-25mm		Consumer	R 72,17	R 72,17	R 72,29	
	Water Connection size: 26-50mm		Consumer	R 892,17	R 826,09	R 806,04	
	Water Connection size: 51-80mm		Consumer	R 2 253,19	R 2 086,96	R 2 056,62	
	Water Connection size: 81-100mm		Consumer	R 3 568,70	R 3 304,35	R 3 213,27	
	Water Connection size: 101-150mm		Consumer	R 7 982,61	R 7 391,30	R 7 228,95	
	Consumption of more than 200000 kl per month		Consumer	R 173 739,13	R 160 869,57	R 155 166,91	
	Un-metered connections		Consumer	R 262,96	R 243,48	R 235,54	
2	**VOLUME CHARGES**						
	No restrictions						
	0-6kl		kl	R 2,82	R 2,61	R 2,50	
	7-30kl		kl	R 8,15	R 7,55	R 7,06	
	31-60kl		kl	R 8,15	R 7,55	R 7,06	
	61-300kl		kl	R 8,15	R 7,55	R 7,06	
	Above 300kl		kl	R 28,43	R 26,32	R 26,32	
	Block B (Aimed at larger and commercial and smaller industrial clients)						
	0-300kl		kl	R 8,90	R 8,24	R 7,70	
	301-1000kl		kl	R 8,90	R 8,24	R 7,70	
	1001-8000kl		kl	R 8,61	R 7,97	R 7,38	
	Above 8000kl		kl	R 8,61	R 7,97	R 7,38	
	Block C (Aimed at industrial clients)						
	Consumption above 20000kl per month		kl	R 2,75	R 2,55	R 2,38	
	Block D (Internal)						
	Departmental Consumption		kl	R 2,33	R 2,16	R 2,02	
	Moderate restrictions						
	Block A (Aimed at residential and smaller commercial clients)						
	0-6kl		kl	R 2,61	R 2,61	R 2,50	
	7-30kl		kl	R 9,06	R 9,06	R 10,59	
	31-60kl		kl	R 9,06	R 9,06	R 10,59	
	61-300kl		kl	R 9,06	R 9,06	R 10,59	
	Above 300kl		kl	R 26,32	R 26,32	R 26,32	
	Block B (Aimed at larger and commercial and smaller industrial clients)						
	0-300kl		kl	R 10,68	R 9,89	R 11,55	
	301-1000kl		kl	R 10,68	R 9,89	R 11,55	
	1001-8000kl		kl	R 10,33	R 9,57	R 11,07	
	Above 8000kl		kl	R 10,33	R 9,57	R 11,07	
	Block C (Aimed at industrial clients)						
	Consumption above 20000kl per month		kl	R 3,77	R 3,16	R 3,57	
	Extreme restrictions						
	Block A (Aimed at residential and smaller commercial clients)						
	0-6kl		kl	R 2,61	R 2,61	R 2,50	
	7-30kl		kl	R 16,32	R 15,11	R 14,12	
	31-60kl		kl	R 16,32	R 15,11	R 14,12	
	61-300kl		kl	R 16,32	R 15,11	R 14,12	
	Above 300kl		kl	R 26,32	R 26,32	R 26,32	
	Block B (Aimed at larger and commercial and smaller industrial clients)						
	0-300kl		kl	R 17,81	R 16,49	R 15,40	
	301-1000kl		kl	R 17,81	R 16,49	R 15,40	
	1001-8000kl		kl	R 17,23	R 15,95	R 14,76	
	Above 8000kl		kl	R 17,23	R 15,95	R 14,76	
	Block C (Aimed at industrial clients)						
	Consumption above 20000kl per month		kl	R 5,61	R 5,61	R 4,76	
	RECONNECTION CHARGES						
	OTHER CHARGES (DEFINE CATEGORY)						

The table above indicates the tariffs applicable to Water.

Table C3.1.2: Tariffs for Sanitation / Wastewater

Nr	Category	Sector	Unit	Tariff (VAT excluded)			% increase
				Year -1	Year -1	Year - 2	
				FY2019/20	FY2018/19	FY2017/18	Year 0
	BASIC CHARGES						
	Unimproved Sites			R 70,28	R 66,30	R 61,39	
	Water Connection size: 0-25mm			R 198,65	R 187,41	R 176,80	
	Water Connection size: 26-50mm			R 773,05	R 729,29	R 688,01	
	Water Connection size: 51-80mm			R 1 979,40	R 1 867,36	R 1 761,66	
	Water Connection size: 81-100mm			R 3 092,51	R 2 917,46	R 2 752,32	
	Water Connection size: 101-150mm			R 6 956,02	R 6 562,28	R 6 190,83	
	OTHER CHARGES						
	Obiqua Prison - Tulbagh			R 32 912,17	R 31 049,22	R 29 017,96	
	Schools - Op - die -Berg			R 198,65	R 187,41	R 176,80	
	Other Sites - Op - die -Berg			R 198,65	R 187,41	R 176,80	
	Departmental Tarrif			R 81,60	R 76,98	R 72,62	

The table above indicates the tariffs applicable to Sewerage. All the tariffs were increased with ±6%. This was done in line with inflation.

C3.2 Metering, Billing and Free Basic Services

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

Regulations Ref. #	Description	Unit	Year -1	Year -1	Year - 2
			FY2019/20	FY2018/19	FY2017/18
	UNITS SUPPLIED (as per water services access profile)				
10.2 (b) (i)	Household water connections (house and yard connections)	Nr	12 462	**12 347**	**12 246**
10.2 (b) (iv)	Household sewerage connections	Nr	12 865	**12 697**	**12 261**
	METERING				
	Metered Water Connections (aligned with Billing System)				
	Residential	Nr	12 317	12 204	12 103
	Commercial / Business	Nr	50	48	48
	Industrial	Nr	23	23	23
	Government / Institutional	Nr	72	72	72
	etc.	Nr			
	Sub-Total: Metered Water Connections	**Nr**	**12 462**	**12 347**	**12 246**
	Proportion of metered connections (residential)	%	99%	1	1
	Total number of meters	Nr	**12 462**	**12 347**	**12 246**
10.2 (b) (vi)	Total number of new connections (aligned with Table C.2.1)	Nr	115	101	230
10.2 (e) (i)	Total number of new meters installed	Nr	115	101	230
	Proportion of new connections, metered	%	100%	1	1
	Number of meters tested	Nr	**0**	0	0
10.2 (e) (ii)	Proportion of meters tested to total number of meters	%	0	0	0
	Number of meters replaced	Nr	**0**	0	0
10.2 (e) (ii)	Proportion of meters replaced to total number of meters	%			
	BILLING				
	Customer billing (water and sewerage)		**Nr**	**Nr**	**Nr**
	Residential	Nr	12 317	12 204	**12 103**
	Commercial / Business	Nr	50	48	**48**
	Industrial	Nr	23	23	**23**
	Government / Institutional	Nr	72	72	**72**
	etc.	Nr	**0**	**0**	**0**
	Sub-Total: Customers billed	Nr	**12 462**	**12 347**	**12 246**
	Proportion of bills to metered connections	%	**100,0%**	**100,0%**	**100,0%**
	Residential	%	100,0%	100,0%	100,0%
	Commercial / Business	%	100,0%	100,0%	100,0%
	Industrial	%	100,0%	100,0%	100,0%
	Government / Institutional	%	100,0%	100,0%	100,0%
	etc.	%	#DIV/0!		
	FREE BASIC SERVICES				
	Nr customers receiving:				
	Free Basic Water	Nr	12 462	3 697	2 317
10.2 (b) (v)	Free Basic Sanitation	Nr	3 093	3 697	2 317
	Proportion of Free Basic Services				
	Water	%	100%	30%	19%
	Sewerage	%	24%	29%	19%

C3.3 Revenue collection and cost recovery

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

Regulations Ref. #	Description	Year 0	Year - 1	Year - 2
		FY2019/20	FY2018/19	FY2017/18
	INCOME	R'000	R'000	R'000
	Billed			
	Water reticulation / provision	R 42 853	R 38 998	R 57 998
	Sewerage / wastewater	R 33 613	R 38 564	R 30 817
	Sub-Total: Billed	**R 76 466**	**R 77 561**	**R 88 815**
	Collections			
	Water reticulation / provision	R 31 739	R 32 205	R 40 039
	Sewerage / wastewater	R 21 812	R 23 991	R 26 208
	Sub-Total: Collections	**R 53 550**	**R 56 196**	**R 66 247**
	Equitable share income			
	Water reticulation / provision	R 3 427	R 3 451	R 3 387
	Sewerage / wastewater	R 7 664	R 13 660	R 5 652
	Sub-Total: Equitable share income	**R 11 091**	**R 17 111**	**R 9 039**
	EXPENDITURE (O&M)	R'000	R'000	R'000
	Water services	R 40 332	R 36 554	R 29 602
	Sewerage / wastewater services	R 27 525	R 32 715	R 28 419
	Total: Water Services O&M	**R 67 858**	**R 69 268**	**R 58 021**
	COST RECOVERY ANALYSIS / RATIO'S	%	%	%
10.2 (d) (ii)	**Billed as % of Cost**			
	Water	106%	107%	196%
	Sewerage	122%	118%	108%
	Total	**113%**	**112%**	**153%**
10.2 (d) (iii)	**Unrecovered as % of Cost**			
	Water services	28%	19%	61%
	Sewerage / wastewater services	43%	45%	16%
	Total	**34%**	**31%**	**39%**

Figure C3.3.1: Revenue collection and cost recovery profile (water)

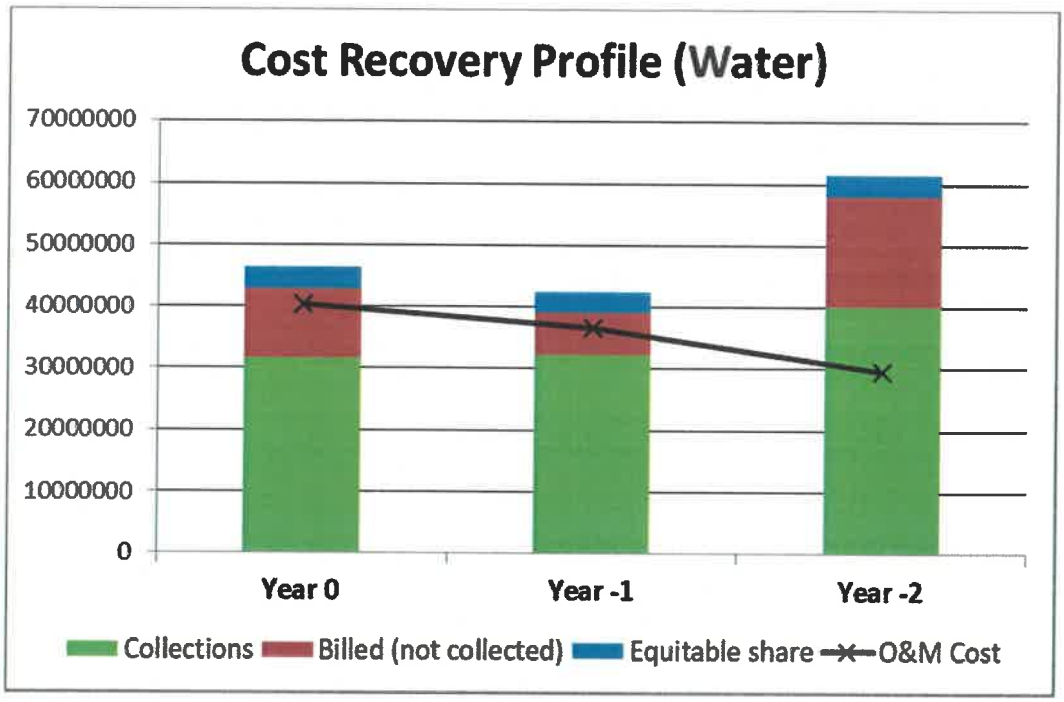
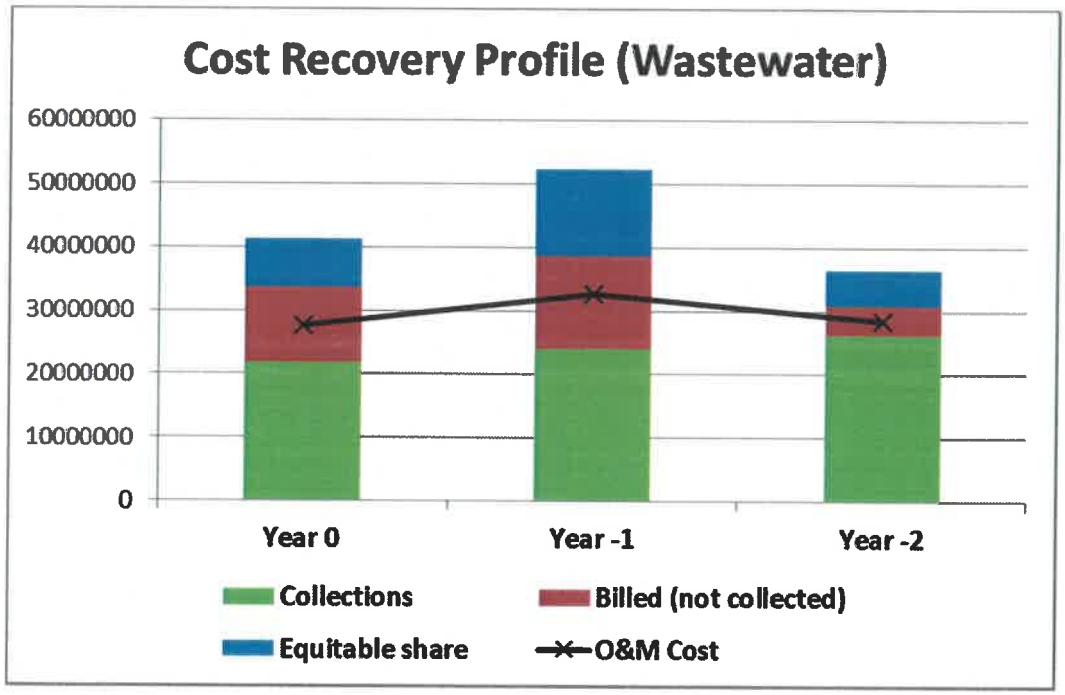


Figure C3.3.2: Revenue collection and cost recovery profile (wastewater)



C4. Water quality

C4.1 Sampling programme

The table below gives an overview of Witzenberg Municipality's compliance sampling programme for potable water quality: **Table C4.1.1: Sampling programme for potable water quality**

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
#	Name	FY2019/20	FY2018/19	FY2017/18		FY2019/20	FY2018/19	FY2017/18
	Ceres WTW				**Microbiological (Health)**			
1	Reservoir Final, Post Chlorination	Yes	Yes	Yes	E.Coli	12	12	12
2	Wastewater Treatment Works	Yes	Yes	Yes	Total Coliforms	12	12	12
3	John Steyn Library	Yes	Yes	Yes	Cytopathogenic Viruses			
4	Kaap Agri	Yes	Yes	Yes	Cryptosporidium	1	1	1
5	Egoli	Yes	Yes	Yes	Gardia	1	1	1
6	Bella Vista Clinic	Yes	Yes	Yes	Somatic Coliphages	1	1	1
7	Langstraat	Yes	Yes	Yes	Heterotrophic Plate Count	12	12	12
8	Buitenstraat	Yes	Yes	Yes	**Physical, Organoleptic (Non Health)**			
9	Geelhoutstraat	Yes	Yes	Yes	Colour	12	12	12
10	N'Duli Intermediate school	Yes	Yes	Yes	Conductivity	d	d	12
11	41 Chris Hani	Yes	Yes	Yes	Total Dissolved Solids	12	12	12
12	Zola Avenue	Yes	Yes	Yes	pH@ 25°C	d	d	d
	ODB WTW				Turbidity	d	d	d
13	De Keurstraat	Yes	Yes	Yes	**Chemical (Macro)**			
14	469 River Singel	Yes	Yes	Yes	Free Chlorine	d	d	d
15	Clinic	Yes	Yes	Yes	Total Chlorine	d	d	d
16	Tap (Behind Spar)	Yes	Yes	Yes	Monochloromine	1	1	1
	PAH WTW				Ammonia	4	4	4
17	Reservoir Final, Post Chlorination	Yes	Yes	Yes	Sodium	1	1	1
18	266 Steve Tshewete St, Kliprug	Yes	Yes	Yes	Chloride	4	4	4
19	Municipal Offices	Yes	Yes	Yes	Fluoride	4	4	4
20	Tap (Restaurant)	Yes	Yes	Yes	Nitrate	4	4	4
21	Denne Laan	Yes	Yes	Yes	Nitrite	4	4	4
	TULBAGH WTW				Nitrate and Nitrate	4	4	4
22	Water Treatment Works - Final	Yes	Yes	Yes	Sulphate	1	1	1
23	Municipal Offices	Yes	Yes	Yes	Zinc	1	1	1
24	Bloekombossie Restaurant	Yes	Yes	Yes	**Chemical (Micro)**			
25	Central Town (Police Station)	Yes	Yes	Yes	Aluminium	12	12	12
26	Clinic	Yes	Yes	Yes	Iron	12	12	12
27	Wastewater Treatment Works	Yes	Yes	Yes	Manganese	12	12	12
28	Shell Garage, Main Road	Yes	Yes	Yes	Copper	4	4	4
	WOLSELEY WTW				Antimony	1	1	1
29	Water Treatment Works - Final	Yes	Yes	Yes	Arsenic	1	1	1
30	No 4 NPK Pine Valley	Yes	Yes	Yes	Cadmium	1	1	1
31	Municipal Offices	Yes	Yes	Yes	Total Chromium	1	1	1
32	Stamperstraat Reservoir	Yes	Yes	Yes	Cobalt	1	1	1
33	H/V Eiland & Breestraat	Yes	Yes	Yes	Cyanide	1	1	1
					Lead	1	1	1
					Mercury	1	1	1
					Nickel	1	1	1
					Selenium	1	1	1
					Uranium	1	1	1
					Barium	1	1	1
					Boron	1	1	1
					Chemical (Organic)			
					Total Trihalomethanes	4	4	4
					Chloroform	1	1	
					Bromoform	1	1	
					Dibromochloromethane	1	1	
					Bromodichloromethane	1	1	
					Trihalomethanes Ratio	1	1	
					Total Organic Carbon	4	4	
					Phenols	1	1	1
					Total Microcystin	1	1	1

The table below gives an overview of Witzenberg Municipality's compliance sampling programme for wastewater final effluent quality:

Table C4.1.2: Sampling programme for wastewater effluent quality

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
#	Name	FY2019/20	FY2018/19	FY2017/18		FY2019/20	FY2018/19	FY2017/18
1	Ceres WWTW	yes	yes	yes	**Parameters testing**			
2	Tulbagh WWTW	yes	yes	yes	pH (at 25 deg. C) – Lab*	12	12	12
3	Wolseley WWTW	yes	yes	yes	Settleable Solids (ml/l)*Δ	d	d	d
4	Op-die-Berg WWTW	yes	yes	yes	Conductivity (mS/m) (at 25 deg.C)	12	12	12
					Faecal Coliforms (organisms per 100 ml)	12	12	12
					Chemical Oxygen Demand (mg/l)	d	d	d
					Total Kjeldahl Nitrogen (mg/l)	12	12	12
					Ammonia Nitrogen (mg/l as N)	12	12	12
					Nitrate Nitrogen (mg/l as N)	12	12	12
					Nitrite Nitrogen (mg/l as N)	12	12	12
					Dissolved Oxygen (mg/l) *	d	d	d
					Total Suspended Solids (mg/l)	d	d	d
					Volatile Suspended Solids (mg/l)	d	d	d
					Total Phosphorus (mg/l as P)	12	12	12
					Ortho Phosphorus (mg/l as P)	12	12	12
					Sludge Volume Index (ml/g)	d	d	d
					Diluted Sludge Volume Index (ml/g)	d	d	d
					Free Chlorine (mg/l as Cl) *	d	d	d
					Total Chlorine (mg/l as Cl) *	d	d	d
					Calcium (mg/l as Ca)	2	2	2
					Magnesium (mg/l as Mg)	2	2	2
					Sodium (mg/l as Na)	2	2	2
					Sodium Absorption Ratio	2	2	2
					Dissolved Arsenic (µg/l)	2	2	2
					Dissolved Cadmium (µg/l)	2	2	2
					Dissolved Chromium (VI) (mg/l)	2	2	2
					Dissolved Copper (µg/l)	2	2	2
					Dissolved Cyanide (µg/l)	2	2	2
					Dissolved Iron (µg/l as Fe)	2	2	2
					Dissolved Lead (µg/l)	2	2	2
					Dissolved Manganese (µg/l as Mn)	2	2	2
					Mercury (µg/l as Hg)	2	2	2
					Dissolved Selenium (µg/l)	2	2	2
					Dissolved Zinc (mg/l)	2	2	2
					Boron (mg/l as B)	2	2	2

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

The table below gives an overview of compliance with regard to the sampling programmes:

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

Measurable / Enabling Factor	Unit	Year 0 FY2019/20				Year-1 FY2018/19				Year-2 FY2017/18			
		M	C	P	O	M	C	P	O	M	C	P	O
Potable Water Quality													
Supply system submissions	Nr registered	5	5	5	5	5	5	5	5	5	5	5	5
	Nr submitted*	5	5	5	5	5	5	5	5	5	5	5	5
	Annual %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Monitoring compliance	Average %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Data Credibility	Average %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
IRIS In-Time Submission	Annual %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Wastewater Quality													
Monitoring compliance	Average %	100%				100%				100%			
Operational monitoring compliance	Average %	Not captured on IRIS - captured by PC's at each WWTW's											

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

The table below gives an overview of the water quality monitoring from the WSDP Guide Framework perspective:

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

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 FY2019/20	Year - 1 FY2018/19	Year - 2 FY2017/18
6,3	**Water Supply and Quality**				
6.3.2	Process Control in place	yes/total WTW in %	100%	100%	100%
6.3.3	Monitoring Programme in place	yes/total schemes in %	100%	100%	100%
6.3.4	Sample Analysis Credibility	Average %	100%	100%	100%
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 %	100%	100%	100%
9.2.3	% of water abstracted monitored: External Sources (Bulk purchase)	Q monitored own / Q purchased in %	NA	NA	NA
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	3	3	3
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 %	yes	yes	yes
9.3.5	Quality of water taken from source: urban - % monitored by WSA self?	monitored by WSA / total schemes in %	yes	yes	yes
9.3.6	Quality of water taken from source: rural - % monitored by WSA self?	monitored by WSA / total schemes in %	NA	NA	NA
9.3.9	Are these results available in electronic format?	yes/no	yes	yes	yes

The table below gives an overview of the wastewater quality monitoring from the WSDP Guide Framework perspective:

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
			FY2019	FY2018	FY2017
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 %	100%	100%	100%
6,4	**Wastewater Supply and Quality**				
6.4.2	Process Control in place	yes/total WWTW in %	yes	yes	yes
6.4.3	Monitoring Programme in place	yes/total WWTW in %	yes	yes	yes
6.4.4	Sample Analysis Credibility	Average %	100%	100%	100%
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 %	yes	yes	yes
9.3.3	Quality of water returned to the resource: rural	yes/total WWTW in %	NA	NA	NA
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 %	NA	NA	NA
9.3.9	Are these results available in electronic format?	yes/no	yes	yes	yes

C4.2 Water quality compliance

The table below gives an overview of Witzenberg Municipality's water quality compliance, as taken from the BDS / IRIS:

Table C4.2.1: Overview of water quality compliance

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 FY2019/20				Year 1 FY2018/19				Year 2 FY2017/18			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results per the Blue Drop System													
n/a	Analysis compliance	Total	All results available on the BDS (IRIS)				All results available on the BDS (IRIS)				396	2044		
n/a		Nr Failures									0	1		
n/a		Compliance %									100%	100%		
n/a	Samples frequency	Total									396	2044		
n/a		Nr Failures									0	1		
n/a		Compliance %									100%	100%		
n/a	Sites compliance	Total									33	33		
n/a		Nr Failures									0	1		
n/a		Compliance %									100%	97%		
6,3	**Water Supply and Quality**													
6.3.6	Blue Drop Status	certified per BDS	NA				NA				NA			
9,3	**Water Quality**													
9.3.10	% Time (days) within SANS 241 standards per year	Average of sites compliance %									98%			

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

Table C4.2.1: Overview of water quality compliance

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 2019/2020			Year-1 2018/2019			Year-2 2017/2018		
			M	C	O	M	C	O	M	C	O
	Results per the Blue Drop System										
n/a	Analysis compliance	Total	All data available on the IRIS system								
n/a		Nr Failures									
n/a		Compliance %									
n/a	Samples frequency	Total									
n/a		Nr Failures									
n/a		Compliance %									
n/a	Sites compliance	Total									
n/a		Nr Failures									
n/a		Compliance %									
6,3	**Water Supply and Quality**										
6.3.6	Blue Drop Status	certified per BDS	NA			NA			NA		
9,3	**Water Quality**										
9.3.10	% Time (days) within SANS 241 standards per year	Average of sites compliance %	NA			NA			NA		

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

Table C4.2.2: Overview of wastewater quality compliance

Table C4.2.2: Overview of wastewater quality compliance

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 FY2019/20				Year-1 FY2017/18				Year-2 FY2017/18			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results per the Green Drop System													
n/a	Regulatory compliance	Total	48	192	144		48	192	144		48	192	144	
n/a		Nr Failures	0	39	20		0	20	7		0	34	6	
n/a		Compliance %	100%	95%	86%		100%	90%	95%		100%	82%	96%	
n/a	Operational compliance	Total												
n/a		Nr Failures												
n/a		Compliance %												
5.3.1	**Monitoring and Sample Failure**													
5.3.1.3 5.3.1.4 5.3.1.5	Average % of sample failure	Failure %	6,0%				5,0%				7,0%			
6,3	**Water Supply and Quality**													
6.4.6	Green Drop Status	certified per GDS	NA				NA				NA			

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

C4.3 Incident management

Water Safety Plans are in place for all the water distribution systems and treatment works. A detailed risk assessment was done and the existing control measures implemented by Witzenberg Municipality. The WSP's are re-evaluated on an annual basis and all types of incidents are investigated.
For wastewater treatment and reticulation we have Risk Abatement Plans (W2RAP) for all sewer networks and treatment plants. Risks were identified and rated and are managed according to its potential impact.

An Incident Response Management Protocol is in place and forms part of Witzenberg Municipality's Water Safety Plans and W2RAP. The IMP process entails that certain procedures are followed when certain incidents occurs. This includes power failures, human error, faulty equipment etc.

Witzenberg Municipality have an Electrical and Mechanical Maintenance of Water and Sewer Pump stations and Treatment works contract with Tricom for the repair and preventative maintenance work to equipment and infrastructure.

The municipality also have a Water & Sewer Network Replacement Programme contract with Alfalach which works according to critical areas in terms of regular pipe bursts and sewer blockages. These records are given through via the monthly report, discussed and reported to the contractor for an immediate replacement programme to be handed in.

Operational Alert levels are also in place for all the Water Treatment Works and the Wastewater Treatment Works. This is to ensure that all plants perform optimally. If these levels are exceeded, specific actions are taken to rectify. The Alert levels also form part of an operational and compliance drinking water quality and final effluent quality monitoring plan which meets the requirements of the DWS standards.

Table C4.3.1: Incident management and reporting overview

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0 FY2019	Year - 1 FY2018	Year - 2 FY2017
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%

Table C4.3.2: Summary of water quality compliance per the Blue Drop System

Measurable / Enabling Factor	Unit	Year 0 FY2019/20				Year-1 FY2018/19				Year-2 FY2017/18			
		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	All results available on the BDS (IRIS)				All results available hard copy or via email. IRIS was not 100% operational				All results available on the BDS (IRIS)			
	Nr of failures												
	Failure %												
	Nr reported												
	Reported % of failure												
Failures in terms of Samples	Total												
	Nr of failures												
	Failure %												
	Nr reported												
	Reported % of failure												
Failures in terms of Sites	Total												
	Nr of failures												
	Failure %												
	Nr reported												
	Reported % of failure												

C5. Water conservation and demand management

Table C5: Overview of water conservation and demand management activities

WSDP Ref. #	Regulations Ref. #	Description	Urban Settlements						Rural Settlements					
			Year 0		Year 1		Year 2		Year 0		Year 1		Year 2	
			FY2019/20		FY2018/19		FY2017/18		FY2019/20		FY2018/19		FY2017/18	
7.1.1	10.2.g.iii	**REDUCING UNACCOUNTED FOR**												
		Number of customers where the following activities have been pursued:	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total
7.1.1.1		Night flow metering	77 572	100%	75 754	100%	73 978	100%	0	0%	0	0%	0	0%
7.1.1.2		Day flow metering	77 572	100%	75 754	100%	73 978	100%	0	0%	0	0%	0	0%
7.1.1.3		Reticulation leaks fixed		100%	1 713	100%	1 971	100%	0	0%	0	0%	0	0%
7.1.1.4		Illegal connections formalized	0		0	0%	0	0%	0	0%	0	0%	0	0%
7.1.1.5		Un-metered connections, metered	0		0	0%	0	0%	0	0%	0	0%	0	0%
7.1.2	10.2.g.iii	**REDUCING HIGH PRESSURES FOR**												
		Number of residential consumers with water supply pressure of:	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total
7.1.2.1		< 300 kPa	64 683	83%	63 167	82%	61 688	82%	0	0%	0	0%	0	0%
7.1.2.2		300 kPa - 600 kPa	12 889	17%	12 587	18%	12 290	18%	0	0%	0	0%	0	0%
7.1.2.3		600 kPa - 900 kPa	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7.1.2.4	10.2.b.iii	> 900 kPa	0	0%	0	0%	0	0%	0	0%	0	0%	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	Nr	% of total	Nr	% of total	Nr	% of total
7.1.3.1		Leak repair assistance programme	16 489	100%	14 878	100%	13 960	100%	0	0%	0	0%	0	0%
7.1.3.2	10.2.g.iv	Retro-fitting of water inefficient toilets	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7.1.3.3		Meter repair programme	16 489	100%	14 878	100%	13 960	100%	0	0%	0	0%	0	0%
7.1.4	10.2.g.iii	**CONSUMER / END-USE DEMAND**												
			Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total
7.1.4.1		Number of schools targeted by education programmes	48	100%	48	100%	48	100%	0	0%	0	0%	0	0%
7.1.4.2		Number of consumers (people) targeted by public information programmes	77 572	100%	75 754	100%	73 978	100%	0	0%	0	0%	0	0%

Herewith UAW percentages for the last three financial years:

FINANCIAL YEAR	PERCENTAGES
2014/2015	20.5%
2015/2016	15.8%
2016/2017	19.4%
2017/2018	17.91%
2018/2019	17.73%
2019/2020	15.04%

Demand activities undertaken:

- Additional flow meters were installed at strategy positions.
- The municipality ensured that all existing bulk water meters are in an operational condition and that all data is logged on spreadsheets.
- Compared financial data with bulk flow meters i.e. establish the difference between bulk water supply to each town and actual supply of water to individual households.
- Purchased and installed removable data loggers to assist with the identification of high night flows.
- Installed additional zone meters to enable proper water audits in all towns.
- A formal programme to replace water meters was implemented.
- Monthly water audit to identify problems. Special attention was given to the categorizing of the different losses.
- Calculation of safe yields from existing water sources – completed and details contained in comprehensive report titled "Witzenberg Water Management – PUDJA cc"
- Determination of long term needs
- Investigation of alternative water sources
- Implementation of a water meter replacement programme.
- The bulk meters was only read once a month and was thus hard to estimate a value for the rest of the month if the meter should break. This in turns lengthens the time it takes to notice a faulty meters that perhaps stop functioning maybe as a result of debris. It has been changed to daily reading for more accurate calculations.
- Repair/replacement of all damaged Bulk Supply meters in Witzenberg
- Repair/replacement of damaged Bulk Consumer meters in Witzenberg
- Ensuring the municipal stores were stocked with replacement meters for all various sizes
- Water meter audit – All towns
- Pipe and Valve replacement programmes
- Leak detection
- Townbased programmes – internal leak repairs (beyond the meter) in poor areas.
- Water restrictions and devices.

Section D: Approval and Publication Record

This Annual Water Services Development Plan Performance- and Water Services Audit Report for the Financial Year ending 2019/20 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.

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

This report will be available for inspection at the offices of the municipality.

RECOMMENDED:

Signature 19.11.20 Date

Name: Nathan Jacobs
Title: Manager: Water & Sewerage

Signature 19/11/20 Date

Name: Joseph Barnard
Title: Director: Technical services

APPROVED:

Signature 20/11/2020 Date

Name: David Nasson
Title: Municipal Manager