

WATER SERVICES DEVELOPMENT PLAN (WSDP) PERFORMANCE AND AUDIT REPORT 2024/25 (CIVIL ENGINEERING SERVICES)

PURPOSE

The purpose of this report is to submit the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025 for information and approval.

The following information is included in the report:

- The Municipality's performance with regard to their KPI's for water and sewerage services for the 2024/2025 financial year, as also included in the Service Delivery Budget Implementation Plan of the Municipality.
- The Municipality's performance with regard to DWS's Blue-, Green- and No Drop assessments.
- DWS's scorecard for assessing the potential for WC/WDM efforts in the Municipality.
- Information to be included in a WSDP Performance- and Water Services Audit as stipulated in regulations under section 9 of the Water Services Act, "Guidelines for Compulsory National Standards" and also required by DWS's 2014 WSDP Performance and Water Services Audit Report guidelines.
- Information on the implementation of the various WSDP activities, as included under the WSDP Business Elements in DWS's WSDP guidelines.
- IWA Water Balance Models for each of the towns.

Attached to the report as Annexure A is the Executive Summary of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025.

BACKGROUND

Langeberg Municipality is required in terms of Section 18 of 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, to report on the implementation of its WSDP during each financial year and to include a water services audit in such an annual report.

Section 62 of the Water Services Act further requires the Minister to monitor every WSI in order to ensure compliance with the prescribed national standards. This regulation requires a WSA to complete and submit a WSDP Performance- and Water Services Audit every financial year.

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

The WSDP Performance- and Water Services Audit Report will give an overview of the implementation of the Municipality's previous year's WSDP, for the 2024/2025 financial year, and can be seen as an annexure to Langeberg Municipality's Annual Report. 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).

OVERVIEW

Langeberg Municipality's Vulnerability Index for 2024 was indicated as 0.58 "High Vulnerability". The areas of concern evident from the 2024 assessment are Financial Asset Management (40.0%, Extreme Vulnerability), Technical Staff Capacity (Numbers) (45%, Extreme Vulnerability), Wastewater/Environmental Safety & Regulatory Compliance (45%, Extreme Vulnerability), Basic Sanitation (50%, High Vulnerability), Infrastructure Asset Management (50%, High Vulnerability) and Operation and Maintenance of Assets (55%, High Vulnerability).

The water and sanitation services of Langeberg Municipality is managed in a financially sustainable manner, with a surplus generated on the operation and maintenance budgets for these two services for the last financial year. The current operational cost for water services was R7-88 / Kl and for sanitation services it was R9-23 / Kl for the 2024/2025 financial year. These costs are however less than half of the operational costs for water and sanitation services of other Municipalities in the Western Cape Province, which indicate that the current O&M Budgets allocated for water and sanitation services are too low.

The current water tariff structure for residential consumers does not adequately discourages the wasteful or inefficient use of water. The residential tariffs for water usage above 30 kl are too low for the 31 - 40 kl, 41 – 60 kl and above 60 kl blocks and do not adequately discourage the wasteful use of water. A financial analysis of the current water and sanitation tariffs needs to be done in order to determine how the tariffs can be changed in order to more adequately discourage the wasteful or inefficient use of water.

The current budgets allocated towards the refurbishment / replacement of the existing old water and sewerage infrastructure are to low and needs to be increased. The total CRC of the water and sewerage infrastructure is R1 883 274 756 and an annual budget of at least R37 665 495 is required for the refurbishment / replacement of the old water and sewerage infrastructure. A budget of approximately 2% of the CRC of the water and sewerage infrastructure per annum should be allocated towards the refurbishment / replacement of the old existing infrastructure. In the case of the operations and maintenance of the systems, a budget of approximately 1% to 2% of the value of the system is typically required to ensure that the systems remain in good condition.

Langeberg Municipality successfully completed a number of capital projects over the last financial year. The capital budget expenditure, for the 2024/2025 financial year, was R13.786 million (45.7% of the budget) for the water infrastructure projects and R38.241 million (91.0% of the budget) for the sewerage infrastructure projects.

The Municipality was able to keep the NRW and Water Losses at very levels during the last financial year, which is excellent. The NRW for all the systems for the 2024/2025 financial year was 1 098 MI (12.9%) and the water losses were 867 MI (10.2%), which are below DWS's NRW target of 30% and water losses target of 20%.

The Water Safety Plans and W₂RAPs include additional recommended water and wastewater quality parameters to be sampled for the various WTWs and water reticulation networks and the WWTWs, which need to be implemented by Langeberg Municipality.

The water quality performance indicators for all the water distribution systems in Langeberg Municipality were "Excellent" for the 2024/2025 financial year, except for Acute Health Microbiological for the Montagu and Bonnievale systems and Operational Efficiency for the Robertson, McGregor and Bonnievale systems (According to the SANS 241:2015 classification).

Overall percentage compliance of the water quality samples taken over the period July to June for the last three financial years															
Distribution System	Acute Health						Chronic Health			Aesthetic			Operational Efficiency		
	Microbiological			Chemical											
	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23
All Systems	95.2%	91.9%	77.2%	100.0%	100.0%	100.0%	100.0%	99.8%	99.8%	99.4%	97.5%	98.3%	91.8%	85.6%	81.3%

Note: Unacceptable according to SANS241:2015 limits

The overall Microbiological, Chemical and Physical compliance percentages of the final effluent samples taken over the last three financial years at all the WWTWs are indicated in the table below.

Overall compliance percentages of the final effluent samples taken over the last three financial years									
WWTW	Microbiological			Chemical			Physical		
	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23
All WWTWs	45.8%	36.5%	27.3%	67.3%	59.6%	50.4%	<u>72.2%</u>	66.7%	65.6%

A comprehensive Performance Management System and Customer Services and Complaints system is in place at Langeberg Municipality. 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.

A comprehensive Customer Services and Complaints system is in place at Langeberg Municipality and the Municipality has maintained a high and a very consistent level of service to its urban water consumers. After hour emergency requests are being dealt with by the Emergency and Customer Call Centre on a twenty four hour basis. Requests are furthermore captured on an electronic mail or works-order system to ensure execution thereof. Langeberg Municipality's Client Service Charter includes the Vision and Aim of the Municipality with regard to Customer Care and the Municipality's commitment.

Comments: Director Community Services

Council to take cognisance of the annual WSDP performance and water services audit report

Comments: Director Corporate Services

The contents of the report are noted.

Comments: Director Financial Services

The contents of the report are noted.

Comments: Director Economic, Social & Integrated Development

The report is noted.

Comments: Director Engineering Services

The improved indicators when compared to the previous 2 financial years is commendable. The low tariffs when compared to that of other municipalities in the Western Cape, indicating that we are below the norm, needs to be considered and addressed. The report is noted and supported.

Comments: Municipal Manager

The continuous improvement of measurement indicators year on year, is sincerely appreciated and the recommendation to Council supported.

RECOMMENDATION

It is recommended that:

1. Council notes the contents of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025.
2. Council Resolution for the approval of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025 be forwarded to DWS, once approved.
3. That the Annual WSDP Performance and Water Services Audit Report be uploaded on the Municipality's website for the public (Public document).

This item served before an Engineering Services Portfolio Committee on 05 February 2026
Hierdie verslag het voor die Ingenieursdienste Portefeulje Komitee gedien op 05 Februarie 2026
Aanbeveling / Recommendation

It is recommended that:

1. Council notes the contents of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025.
2. Council Resolution for the approval of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025 be forwarded to DWS, once approved.
3. That the Annual WSDP Performance and Water Services Audit Report be uploaded on the Municipality's website for the public (Public document).

This item served before the Executive Mayoral Committee on 18 February 2026
Hierdie item het voor die Uitvoerende Burgemeesterskomitee gedien op 18 Februarie 2026
Aanbeveling / Recommendation

It is recommended that:

1. Council notes the contents of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025.
2. Council Resolution for the approval of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025 be forwarded to DWS, once approved.
3. That the Annual WSDP Performance and Water Services Audit Report be uploaded on the Municipality's website for the public (Public document).

This item served before an Ordinary Meeting of Council on 25 February 2026
Hierdie item het gedien voor 'n Gewone Vergadering van die Raad op 25 Februarie 2026
Eenparig Besluit / Unanimously Resolved

1. That Council notes the contents of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025.
2. That the Council Resolution for the approval of the Annual WSDP Performance and Water Services Audit Report for the Year 2024/2025 be forwarded to DWS, once approved.
3. That the Annual WSDP Performance and Water Services Audit Report be uploaded on the Municipality's website for the public (Public document).
4. That the Director: Engineering Services give feedback at the next Engineering Services Portfolio Committee meeting regarding the questions he could not fully answer.

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LANGEBERG 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

FY 2024/2025
29 October 2025

LANGEBERG MUNICIPALITY



Ref P10232

Private Batg X2
Ashton
6715

Tel: (023) 615 8000
Fax: (023) 615 1563

iXengineers (Pty) Ltd

Contact person: Jaco Human
31 Allen Drive, Loevenstein 7530
PO Box 398, Bellville 7535
South Africa
Telephone: +27 (0)21 912 3000
[email: jaco.h@ixengineers.co.za](mailto:jaco.h@ixengineers.co.za)
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Version Control:

Status	Description	Date	Reference
Draft	Draft 2024/2025 Annual WSDP Performance- and Water Services Audit Report	16 October 2025	Project No. P10232
Approval	Final 2024/2025 Annual WSDP Performance- and Water Services Audit Report	Will be submitted with Annual Report	Council Resolution for the approval of the Water Services Audit Report will be forwarded to the DWS by the Municipality.

Prepared by:

Designation	Name	Contact No.	E-mail
Director: Engineering Services	Deon Louwrens	023 – 615 8000 / 023 626 8200	dlouwrens@langeberg.gov.za
Manager: Civil Engineering Services	Carel Posthumus	023 – 615 8000 / 083 233 9308	cposthumus@langeberg.gov.za
Principal Engineer	Jaco Human	021 – 912 3000 / 084 431 8728	jaco.h@ixengineers.co.za

PROJECT P10232 - LANGEBERG MUNICIPALITY: ANNUAL WSDP PERFORMANCE AND WATER SERVICES AUDIT REPORT FOR 2024/2025

REV	DESCRIPTION	ORIG	REVIEW	IX ENGINEERS APPROVAL	DATE	CLIENT APPROVAL	DATE
Draft	Draft issued for external review	R Kuffner Author	JT Human A Reviewer	Approval		Approval	
Final	Final for approval by Council	R Kuffner Author	JT Human A Reviewer	Approval		Approval	

FOREWORD:

Langeberg Municipality is required in terms of Section 18 of 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, to report on the implementation of its WSDP during each financial year and to include a water services audit in such an annual report.

The WSDP Performance- and Water Services Audit is designed to monitor the compliance of Langeberg Municipality with these regulations. It also assists the communities within Langeberg Municipality's Management Area and the DWS to assess how well the Municipality is performing relative to their stated intentions and their capacity. The WSDP Performance- and Water Services Audit Report can be seen as an annexure to the Municipality's Annual Report. 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).

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A detail WC/WDM Strategy was drafted for Langeberg Municipality during 2014, which was approved by Council. The Municipality however plan to compile a new WC/WDM Strategy during the 2025/2026 year in order to ensure compliance with the requirements included in the Revised Compulsory National Water and Sanitation Standards, as published in Government Gazette No.52814 of 6 June 2025.

The Municipality was able to keep the NRW and Water Losses at very levels during the last financial year, which is excellent. The NRW for all the systems for the 2024/2025 financial year was 1 098 MI (12.9%) and the water losses were 867 MI (10.2%), which are below DWS's NRW target of 30% and water losses target of 20%.

The Western Cape experienced a severe drought over the period 2015 to 2017, with some relief during the winter months of the following years. This drought over the period 2015 to 2017 reduced the safe yields of the Municipality's own existing surface water resources. The Municipality therefore continued with the implementation of specific WC/WDM measure to lower the current water requirements and the augmentation of the existing water sources of Montagu with groundwater. The immediate augmentation of Robertson, Bonnievale, Montagu and Ashton water sources is critical in order to meet the future water requirements. The allocation for Bonnievale from the Zanddrift WUA canal is already exceeded, as well as the allocations and safe yields of the Montagu sources.

The Water Safety Plans and W₂RAPs include additional recommended water and wastewater quality parameters to be sampled for the various WTWs and water reticulation networks and the WWTWs, which need to be implemented by Langeberg Municipality.

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LANGBERG MUNICIPALITY

WATER SERVICES AUDIT FOR 2024/2025

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ATTENDANCE REGISTER (DISCUSSION OF DRAFT DOCUMENT)

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Annexure B:	Future Water Requirement Projections for the various water distribution systems
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ABBREVIATIONS AND DEFINITIONS

AADD	Average Annual Daily Demand
ADWF	Average Dry Weather Flow
AMP	Asset Management Plan
BDRR	Blue Drop Risk Ratio
BMC	Billed Metered Consumption
BOCMA	Breede-Olifants Catchment Management Agency
CAP	Corrective Action Plan
CAH	Chronic Acute Health
CBR	Central Breede River
CCH	Chemical Chronic Health
CES	Community Engineering Services
CNA	Chemical Non Health Aesthetic
COD	Chemical Oxygen Demand
CPM	Contract Programme Manager
CRC	Current Replacement Cost
CRR	Cumulative Risk Ratio
CUs	Consumer Units
DCoG	Department of Cooperative Governance
D	Disinfectant
DMA	District Management Area
DO	Dissolved Oxygen
DRC	Depreciated Replacement Cost
DSVI	Diluted sludge volume index
DWQ	Drinking Water Quality
DWS	Department of Water and Sanitation
DWWTS	Decentralised Wastewater Treatment Systems
EC	Electrical Conductivity
ESETA	Energy and Water Services Sector Education and Training Authority
ESKOM	Electricity Supply Commission
GAMAP	General Accepted Municipal Accounting Practice
GD	Green Drop
GDIP	Green Drop Improvement Plan
GIS	Geographical Information Systems
HH	Household
HL	High Level
IAM	Infrastructure Asset Management
ICT	Information and Communications Technology
IDP	Integrated Development Plan
ILI	Infrastructure Leakage Index
IRIS	Integrated Regulatory Information System
IT	Information Technology
IWA	International Water Association
km ²	Square Kilometre
KPI	Key Performance Indicator
l/c/d	Litre per Capita per Day

ABBREVIATIONS AND DEFINITIONS / Continue

l/p/d	Litre per Person per Day
LL	Low Level
LM	Local Municipality
MAH	Microbiological Acute Health
MFMA	Municipal Finance Management Act
MISA	Municipal Infrastructure Support Agent
MI	Mega Litre
MI/a	Mega Litre per Annum
MI/d	Mega Litre per Day
MLSS	Mixed Liquor Suspended Solids
MuSSA	Municipal Strategic Self-Assessment
N/A	Not Applicable
NMR	No Monitoring Required
NRW	Non-Revenue Water
NSSS	Non-sewered Sanitation System
O	Operational
O&M	Operation and Maintenance
PAT	Progress Assessment Tool
PC	Process Controller
PMS	Performance Management System
PPE	Personal Protective Equipment
PRV	Pressure Reducing Valve
PS	Pump Station
PST	Primary Settling Tank
RDP	Reconstruction and Development Programme
RR	Risk Rating
RUL	Remaining Useful Life
SALGA	South African Local Government Association
SANS	South African National Standard
SDBIP	Service Delivery and Budget Implementation Plan
SOPs	Standard Operating Procedures
SST	Secondary Settling Tank
SVI	Sludge Volume Index
TKN	Total Kjeldahl Nitrogen
TMG	Table Mountain Group
TSS	Total Suspended Solids
VAT	Value Added Tax
WARMS	Water Authorisation Registration and Management System
WC/WDM	Water Conservation / Water Demand Management
WRM	Water Resource Management
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSI	Water Services Institution
WSIG	Water Services Infrastructure Grant
WSMP	Water Services Master Plan

ABBREVIATIONS AND DEFINITIONS / Continue

WSP	Water Services Provider
WTW	Water Treatment Works
WUA	Water User Association
WULA	Water Use Licence Application
W ₂ RAP	Waste Water Risk Abatement Plan
WWTW	Waste Water Treatment Works

KEY TERMS AND INTERPRETATIONS

KEY TERMS	INTERPRETATIONS																					
Current replacement cost (CRC)	The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset. GAMAP defines CRC as the cost the entity would incur to acquire the asset on the reporting date.																					
Depreciated Replacement Cost (DRC)	The replacement cost of an existing asset after deducting an allowance for wear or consumption to reflect the remaining economic life of the existing asset.																					
Financial Year	Financial year means in relation to- - a national or provincial department, the year ending 31 March; or - a municipality, the year ending 30 June.																					
Integrated Development Plan (IDP)	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.																					
International Water Association (IWA) Water Balance	<table><tr><td rowspan="8">System Input Volume</td><td rowspan="2">Authorised Consumption</td><td>Billed Authorised Consumption</td><td>Billed Metered Consumption</td><td rowspan="2">Revenue Water</td></tr><tr><td>Unbilled Authorised Consumption</td><td>Billed Unmetered Consumption</td></tr><tr><td rowspan="6">Water Losses</td><td rowspan="2">Commercial Losses</td><td>Unbilled Metered Consumption</td><td rowspan="6">Non-Revenue Water</td></tr><tr><td>Unbilled Unmetered Consumption</td></tr><tr><td rowspan="4">Physical Losses</td><td>Unauthorised Consumption</td></tr><tr><td>Customer Meter Inaccuracies and Data Handling Erros</td></tr><tr><td>Leakage on Transmission and Distribution Mains</td></tr><tr><td>Leakage and Overflows from the Utilities Storage Tanks</td></tr><tr><td></td><td></td><td>Leakage on Service Connections up to the Customer Meter</td><td></td></tr></table>	System Input Volume	Authorised Consumption	Billed Authorised Consumption	Billed Metered Consumption	Revenue Water	Unbilled Authorised Consumption	Billed Unmetered Consumption	Water Losses	Commercial Losses	Unbilled Metered Consumption	Non-Revenue Water	Unbilled Unmetered Consumption	Physical Losses	Unauthorised Consumption	Customer Meter Inaccuracies and Data Handling Erros	Leakage on Transmission and Distribution Mains	Leakage and Overflows from the Utilities Storage Tanks			Leakage on Service Connections up to the Customer Meter	
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	Water Losses		Commercial Losses	Unbilled Metered Consumption	Non-Revenue Water																	
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				Leakage on Transmission and Distribution Mains																		
		Leakage and Overflows from the Utilities Storage Tanks																				
		Leakage on Service Connections up to the Customer Meter																				
System Input Volume	The volume of treated water input to that part of the water supply system to which the water balance calculation relates.																					
Authorised Consumption	The volume of metered and/or un-metered water taken by registered customers, the water supplier and others who are implicitly or explicitly authorised to do so by the water supplier, for residential, commercial and industrial purposes. It also includes water exported across operational boundaries. Authorised consumption may include items such as fire-fighting and training, flushing of mains and sewers, street cleaning, watering of municipal gardens, public fountains, frost protection, building water, etc. These may be billed or unbilled, metered or unmetered.																					
Water Losses	The difference between System Input and Authorised Consumption. Water losses can be considered as a total volume for the whole system, or for partial systems such as transmission or distribution schemes, or individual zones. Water Losses consist of Physical Losses and Commercial Losses (also known as Real Losses and Apparent Losses).																					
Billed Authorised Consumption	Those components of Authorised Consumption which are billed and produce revenue (also known as Revenue Water). Equal to Billed Metered Consumption plus Billed Unmetered Consumption.																					
Unbilled Authorised Consumption	Those components of Authorised Consumption which are legitimate but not billed and therefore do not produce revenue. Equal to Unbilled Metered Consumption plus Unbilled Unmetered Consumption.																					
Commercial Losses	Includes all types of inaccuracies associated with customer metering as well as data handling errors (meter reading and billing), plus unauthorised consumption (theft or illegal use). Commercial losses are called “Apparent Losses” by the International Water Association and in some countries the misleading term “Non-Technical Losses” is used.																					
Physical Losses	Physical water losses from the pressurized system and the utility's storage tanks, up to the point of customer use. In metered systems this is the customer meter, in unmetered situations this is the first point of use (stop tap/tap) within the property. Physical losses are called “Real Losses” by the International Water Association and in some countries the misleading term “Technical Losses” is used.																					

KEY TERMS AND INTERPRETATIONS / Continue

KEY TERMS	INTERPRETATIONS
Billed Metered Consumption	All metered consumption which is also billed. This includes all groups of customers such as domestic, commercial, industrial or institutional and also includes water transferred across operational boundaries (water exported) which is metered and billed.
Billed Unmetered Consumption	All billed consumption which is calculated based on estimates or norms but is not metered. This might be a very small component in fully metered systems (for example billing based on estimates for the period a customer meter is out of order) but can be the key consumption component in systems without universal metering. This component might also include water transferred across operational boundaries (water exported) which is unmetered but billed.
Unbilled Metered Consumption	Metered Consumption which is for any reason unbilled. This might for example include metered consumption by the utility itself or water provided to institutions free of charge, including water transferred across operational boundaries (water exported) which is metered but unbilled.
Unbilled Unmetered Consumption	Any kind of Authorised Consumption which is neither billed nor metered. This component typically includes items such as fire-fighting, flushing of mains and sewers, street cleaning, frost protection, etc. In a well-run utility it is a small component which is very often substantially overestimated. Theoretically this might also include water transferred across operational boundaries (water exported) which is unmetered and unbilled – although this is an unlikely case.
Unauthorised Consumption	Any unauthorised use of water. This may include illegal water withdrawal from hydrants (for example for construction purposes), illegal connections, bypasses to consumption meters or meter tampering.
Customer Metering Inaccuracies and Data Handling Errors	Commercial water losses caused by customer meter inaccuracies and data handling errors in the meter reading and billing system.
Leakage on Transmission and /or Distribution Mains	Water lost from leaks and breaks on transmission and distribution pipelines. These might either be small leaks which are still unreported (e.g. leaking joints) or large bursts which were reported and repaired but did obviously leak for a certain period before that.
Leakage and Overflows at Utility's Storage Tanks	Water lost from leaking storage tank structures or overflows of such tanks caused by e.g. operational or technical problems.
Leakage on Service Connections up to point of Customer Metering	Water lost from leaks and breaks of service connections from (and including) the tapping point until the point of customer use. In metered systems this is the customer meter, in unmetered situations this is the first point of use (stop tap/tap) within the property. Leakage on service connections might be reported breaks but will predominantly be small leaks which do not surface and which run for long periods (often years).
Revenue Water	Those components of Authorised Consumption which are billed and produce revenue (also known as Billed Authorised Consumption). Equal to Billed Metered Consumption plus Billed Unmetered Consumption.
Non-Revenue Water	Those components of System Input which are not billed and do not produce revenue. Equal to Unbilled Authorised Consumption plus Physical and Commercial Water Losses.
Municipal Finance Management Act (MFMA)	Municipal Finance Management Act, 2003 (Act No. 56 of 2003)
Remaining useful life (RUL)	The time remaining over which an asset is expected to be used.
Service Delivery Budget Implementation Plan (SDBIP)	The SDBIP is a management, implementation and monitoring tool that enable the City Manager to monitor the performance of senior managers, the Mayor to monitor the performance of the City Manager, and for the community to monitor the performance of the municipality.
Strategic Framework for Water Services	The Strategic Framework provides a comprehensive summary of policy with respect to the water services sector in South Africa and sets out a strategic framework for its implementation over the next ten years.
Water Conservation	The minimisation of loss or waste, the care and protection of water resources and the efficient and effective use of water.

KEY TERMS AND INTERPRETATIONS / Continue

KEY TERMS	INTERPRETATIONS
Water Demand Management	The adaptation and implementation of a strategy by a water institution or consumer to influence the water demand and usage of water in order to meet any of the following objectives: economic efficiency, social development, social equity, environmental protection, sustainability of water supply and services, and political acceptability.
Water Services Authority (WSA)	A 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). There can only be one water services authority in any specific area. Water services authority area boundaries cannot overlap. Water services authorities are metropolitan municipalities, district municipalities and authorised local municipalities.
Water Services Development Plan (WSDP)	A plan to be developed and adopted by the WSA in terms of the Water Services Act, 1997 (Act No.108 of 1997)
WSDP Guide Framework	Modular tool which has been developed by the DWS to support WSAs in complying with the Water Services Act with respect to Water Services Development Planning and which is also used by the DWS to regulate such compliance.
Water Services Provider (WSP)	A WSP means any person or institution that provides water services to consumers or to another water services institution, but does not include a water services intermediary.

LANGBERG MUNICIPALITY

ANNUAL WSDP PERFORMANCE AND WATER SERVICES AUDIT REPORT FOR 2024/2025

EXECUTIVE SUMMARY

Langeberg Municipality is required in terms of Section 18 of 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, to report on the implementation of its WSDP during each financial year and to include a water services audit in such an annual report.

Section 62 of the Water Services Act further requires the Minister to monitor every WSI in order to ensure compliance with the prescribed national standards. This regulation requires a WSA to complete and submit a WSDP Performance- and Water Services Audit every financial year.

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

The WSDP Performance- and Water Services Audit Report will give an overview of the implementation of the Municipality’s previous year’s WSDP, for the 2024/2025 financial year, and can be seen as an annexure to Langeberg Municipality’s Annual Report. 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).

Availability of the Water Services Audit Report: The WSDP Performance- and 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 WSA. It is also recommended that the document be placed on the Municipality’s website and that copies of the document be placed at the public libraries. The WSDP Performance- and Water Services Audit Report also needs to be made available to the Minister of the DWS, the Minister of the Department of Cooperative Governance, the Province and to SALGA, as required by the Water Services Act, 1997.

The WSDP Performance- and Water Services Audit Report contain the following detail information:

- The Municipality’s performance with regard to their KPIs for water and sewerage services for the 2024/2025 financial year, as included in the Municipality’s SDBIP.
- The Municipality’s Performance with regard to DWS’s Blue-, Green- and No Drop Assessments. Blue drop status is awarded to those water schemes that comply with 95% criteria on drinking water quality management. Green drop status is awarded to those WWTWs that comply with 90% criteria on key selected indicators on wastewater quality management. No drop status is awarded to those WSAs that comply with 90% criteria to water use efficiency (Acceptable performance in water demand management in the municipal sector).
- DWS’s Scorecard for assessing the potential for WC/WDM efforts in the Municipality.
- Information to be included in a WSDP Performance- and Water Services Audit as stipulated in regulations under section 9 of the Water Services Act, “Guidelines for Compulsory National Standards” and as required by DWS’s 2014 WSDP Performance and Water Services Audit Report guidelines.

- Information on the implementation of the various WSDP activities, as included under the WSDP Business Elements in DWS's WSDP guidelines.

The Municipality has a comprehensive Performance Management System in place. 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 following water and sanitation related investigations were successfully completed during the last financial year.

- The Water Services Audit Report for the 2023/2024 financial year was finalised and approved by Council with the Annual Report. The IWA water balance models were also updated for each of the distribution systems (Up to the end of June 2024) as part of the Water Services Audit Process.
- Langeberg Municipality continues with the implementation of their Drinking Water Quality and Effluent Quality Sampling Programmes (Both Operational and Compliance Monitoring). Sample results are loaded on a monthly basis onto DWS's IRIS. All the WTWs and WWTWs are registered on the DWS IRIS website. River water quality samples are also taken upstream and downstream of the Montagu, Ashton and Robertson WWTWs.
- W₂RAPs were compiled for the various WWTWs and sewer drainage networks, iX engineers, August 2024.
- Water Safety Plans were compiled for the various WTWs and water reticulation networks, iX engineers, June 2024.
- WTW and WWTW Process Audits were compiled for all the treatment plants, Chris Swartz Water Utilisation Engineers, June 2024.
- The Municipality started with the updating of the Water and Sewer Master Plans, GLS Consulting.
- A Technical Report was compiled for the upgrade of the McGregor WTW, Niel Lyners & Associates, June 2025.
- A Technical Design Report was compiled for the upgrade of the Bonnievale WTW, Niel Lyners & Associates, April 2025.
- The WSDP was updated by AfriCoast and approved by Council on the 4th of December 2024.

DWS's 2025 Blue-, Green- and No Drop results are not yet available. The Municipality however previously received the following awards / acknowledgements with regard to the Blue-, Green- and No Drop assessments:

- Langeberg Municipality performed very poorly with regard to DWS's 2023 Blue Drop Assessment, with an overall Blue Drop Score of 44.67%. The Blue Drop Risk Ratings for all five systems were however in the low-risk category (<50%), which was good. The Blue Drop scores were supported by an average site assessment score of 70% for the Ashton WTW.
- Langeberg Municipality achieved a "Good" score of 87% for the 2023 No Drop Assessment and was acknowledged as one of the top performing WSAs in the country.

- Langeberg Municipality performed very poorly with regard to wastewater quality management, with an overall Green Drop Score of 27% for DWS's 2022 Green Drop assessment. The Green Drop Scores for the five the WWTWs and sewer drainage systems were all below 41%, with the Robertson WWTW failing to reach the minimum target of 31%, with a score of 12% (Critical).
- Langeberg Municipality also received their 2023 Green Drop Risk Ratings, as included in the 2023 Green Drop Progress Report. The overall Cumulative Risk Rating for Langeberg Municipality was 78.1% (High Risk) with the Wastewater Risk Ratings for all WWTW at High Risk (70 - <90%).

Quantity of Water Services Provided (Water Balance)

Detail IWA water balance models are in place for each of the water distribution systems in Langeberg Municipality's Management Area. These models include the volume of raw water abstracted from the various water resources, the treated volume supplied from the WTW (System Input Volume) and the NRW and Water Losses for each of the water distribution systems. The flows at each of the WTWs and WWTWs are also recorded by the Municipality.

Water Services Delivery Profile

The number of billed metered consumers per category or user type is available for each of the water distribution systems. The 2024/2025 number of billed metered consumers in Langeberg Municipality was 15 805. All the formal households in the urban areas of Langeberg Municipality's Management Area are provided with water and sewer connections inside the erven.

Informal areas are supplied with shared services as an intermediary measure. The number of households in informal areas for June 2025 was 2 123. There are still 1 688 households in informal areas without basic water services and 1 968 households without basic sanitation services.

Langeberg Municipality is committed to ensure that private landowners provide at least basic water and sanitation services to those households in the rural areas with existing services below RDP standard.

All schools and medical facilities in the urban areas in Langeberg Municipality's Management Area are supplied with adequate water and sanitation services.

Cost Recovery and Free Basic Services

The Municipality started in 2015/2016 with the implementation of a six block step rising residential water tariff structure with the first 6 kl/month being free for all indigent registered households. This current step block tariff system however does not adequately discourage the wasteful or inefficient use of water and it is necessary for a financial analysis of the current water and sanitation tariffs in order to determine how the tariffs can be changed to more effectively promote the efficient use of water under consumers.

Langeberg Municipality's tariffs support the viability and sustainability of water supply services to the poor through cross-subsidies where feasible. Free basic water and sanitation services are linked to the Municipality's Indigent Policy and all indigent households therefore receive free basic water and sanitation services. This implies that either the equitable share is used to cover this cost, or higher consumption blocks are charged at a rate greater than the cost in order to generate a surplus to cross-subsidise consumers who use up to six (6) kilolitres per month.

The actual Operational and Maintenance expenditure and income for water and sanitation services for the last five financial years are summarised in the table below.

Summary of O&M expenditure and income for water and sanitation services for the last five financial years						
Service	Expenditure / Income	Actual 24/25	Actual 23/24	Actual 22/23	Actual 21/22	Actual 20/21
Water	Expenditure	R67 310 399-10	R65 295 203-61	R54 418 882-80	R52 015 227-73	R43 438 212-84
	Income	-R93 921 306-08	-R63 684 840-96	-R63 035 016-24	-R72 839 646-05	-R46 645 307-70
	- Surplus / Deficit	-R26 610 906-98	R1 610 362-65	-R8 616 133-44	-R20 824 418-32	-R3 207 094-86
Sanitation	Expenditure	R37 529 079-51	R44 701 686-56	R37 195 313-06	R40 597 490-44	R31 688 088-29
	Income	-R50 091 474-95	-R61 300 365-11	-R59 895 555-91	-R67 935 355-09	-R54 210 208-47
	- Surplus / Deficit	-R12 562 395-44	-R16 598 678-55	-R22 400 242-85	-R27 337 864-65	-R22 522 120-18
Water and Sanitation	- Surplus / Deficit	-R39 173 302-42	-R14 988 315-90	-R31 316 376-29	-R48 162 282-97	-R25 729 215-04

Water Quality

Operational and Compliance Water and Wastewater Quality sampling programmes are implemented by Langeberg Municipality. **The water quality performance indicators for all the water distribution systems in Langeberg Municipality was “Excellent” for the 2024/2025 financial year, except for Acute Health Microbiological for the Montagu and Bonnievale systems and Operational Efficiency for the Robertson, McGregor and Bonnievale systems (According to the SANS 241:2015 classification).** The percentage compliance of the water quality samples taken over the period July to June for last three financial years for the various distribution systems are summarised in the table below (SANS 241: 2015 Limits).

Percentage compliance of the water quality samples for the last three financial years						
Performance Indicator	Performance Indicator categorised as unacceptable Yes / No (Table 4 of SANS 241-2:2015)			% Sample Compliance according to SANS 241-2015 Limits		
	24/25	23/24	22/23	24/25	23/24	22/23
Robertson						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	No (Excellent)	Yes (Unacceptable)	100.0%	100.0%	67.2%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.2%	94.6%	99.5%
Operational Efficiency	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	89.3%	83.1%	77.7%
McGregor						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	No (Excellent)	No (Good)	98.3%	100.0%	96.2%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	97.9%
Operational Efficiency	Yes (Unacceptable)	No (Good)	No (Good)	87.0%	90.6%	90.2%
Ashton						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	Yes (Unacceptable)	Yes (Unacceptable)	98.8%	90.2%	80.5%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	98.9%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.5%	98.8%	98.8%
Operational Efficiency	No (Excellent)	Yes (Unacceptable)	Yes (Unacceptable)	97.4%	87.5%	83.5%
Montagu						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	94.6%	94.0%	85.9%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	99.1%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.5%	97.8%	98.9%
Operational Efficiency	No (Excellent)	No (Good)	Yes (Unacceptable)	95.7%	90.0%	84.2%
Bonnievale						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	86.5%	79.0%	69.5%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.0%	97.4%	96.0%
Operational Efficiency	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	89.2%	79.4%	75.5%

The minimum microbiological monitoring frequency (for E.Coli or faecal coliforms) within the distribution system shall comply with the requirements set out in SANS 241-2:2015, Table 2, provided that the Water Services Institution is able to provide appropriate assurance that the water complies with the numerical limits specified in SANS 241-1:2015. The table below indicates the compliance of the E.Coli monitoring frequency in the water distribution systems of Langeberg Municipality, in terms of the minimum requirements of SANS:241. The period assessed was for samples taken from July 2024 to June 2025.

Langeberg Municipality's compliance of the monthly E.Coli monitoring frequency in the water distributions systems in terms of the minimum requirements of SANS 241-2:2015 (Table 2).			
Distribution System	Population served	Required number of monthly samples (SANS 241-2:2015: Table 2)	Number of monthly E.Coli samples taken by Municipality during 2024/2025
Robertson	38 204	8	8.0
McGregor	4 308	2	4.2
Bonnievale	12 533	3	8.0
Ashton	17 237	4	6.0
Montagu	23 735	5	7.1
Total	96 017	21	33.3

It can be noted from the above table that the number of monthly E.Coli samples taken by the Municipality during the 2024/2025 financial year was adequate for all the water distribution systems.

The overall Microbiological, Chemical and Physical compliance percentages of the final effluent samples taken over the last three financial years at the Robertson-, McGregor-, Ashton-, Montagu- and Bonnievale WWTW (General Limits) are summarised in the table below.

Overall Microbiological, Chemical and Physical compliance percentages of the final effluent samples taken over the last three financial years									
WWTW	Microbiological			Chemical			Physical		
	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23
Robertson	16.7%	15.4%	0.0%	44.4%	41.7%	38.7%	38.9%	50.0%	42.4%
McGregor	91.7%	100.0%	100.0%	91.7%	100.0%	100.0%	100%	100.0%	90.9%
Ashton	33.3%	30.8%	18.2%	66.7%	52.8%	35.5%	63.9%	61.1%	54.5%
Montagu	58.3%	23.1%	18.2%	77.8%	66.7%	61.3%	88.9%	66.7%	81.8%
Bonnievale	27.3%	16.7%	0.0%	72.7%	63.9%	51.6%	81.8%	66.7%	66.7%
Overall	45.8%	36.5%	27.3%	67.3%	59.6%	50.4%	72.7%	66.7%	65.6%

WC/WDM

A detail WC/WDM Strategy was drafted for Langeberg Municipality during 2014, which was approved by Council. The Municipality however plan to compile a new WC/WDM Strategy during the 2025/2026 year in order to ensure compliance with the requirements included in the Revised Compulsory National Water and Sanitation Standards, as published in Government Gazette No.52814 of 6 June 2025. The Municipality was able to keep the NRW and Water Losses at very levels during the last financial year, which is excellent. The NRW for all the systems for the 2024/2025 financial year was 1 098 MI (12.9%) and the water losses were 867 MI (10.2%), which are below DWS's NRW target of 30% and water losses target of 20%. The table below gives a summary of the treatment losses, NRW, water losses and ILIs for the various water distribution systems in Langeberg Municipality's Management Area.

Treatment Losses, NRW, Water Losses and ILIs for the various water distribution systems							
Description	Component	Unit	24/25	Record: Prior (MI/a)			
				23/24	22/23	21/22	20/21
Robertson	Treatment Losses	Volume	99.681	28.016	269.018	183.845	227.359
		Percentage	3.1%	1.0%	9.6%	6.6%	7.8%
	NRW	Volume	389.078	332.894	339.332	430.151	577.051
		Percentage	12.6%	12.0%	13.4%	16.5%	21.6%
	Water Losses	Volume	283.092	327.368	334.258	424.950	571.699
		Percentage	9.2%	11.8%	13.2%	16.3%	21.4%

Treatment Losses, NRW, Water Losses and ILIs for the various water distribution systems							
Description	Component	Unit	24/25	Record: Prior (Ml/a)			
				23/24	22/23	21/22	20/21
	ILI		2.43				3.85
	The current treatment losses is very low and acceptable. The NRW increased slightly, but the water losses decreased during the last financial year. Both the NRW and water losses are at excellent levels and far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 2.43 indicates a good management system, with no urgent action required although the NRW and water losses should be monitored carefully.						
McGregor	Treatment Losses	Volume	35.991	28.772	32.184	25.471	21.211
		Percentage	10.4%	9.5%	10.9%	8.7%	7.9%
	NRW	Volume	33.174	9.742	12.958	-0.250	17.301
		Percentage	10.7%	3.6%	4.9%	-0.1%	7.0%
	Water Losses	Volume	30.739	9.194	12.434	-0.786	16.804
		Percentage	9.9%	3.4%	4.7%	-0.3%	6.8%
	ILI		1.53				0.91
	The current treatment losses is just above 10%, which is acceptable. The historical high NRW and Water Losses for McGregor were reduced drastically from 2017/2018 onwards and the current NRW and Water Losses are at excellent levels. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 1.53 also indicates an excellent management system, with no specific intervention required.						
Bonnievale	NRW	Volume	421.432	626.180	448.910	356.609	349.250
		Percentage	19.6%	31.8%	23.4%	20.4%	19.8%
	Water Losses	Volume	366.463	622.238	445.079	353.109	345.290
		Percentage	17.1%	31.6%	23.2%	20.2%	19.6%
	ILI		6.13				5.16
Ashton	Treatment Losses	Volume	107.476	221.938	54.254	214.052	153.067
		Percentage	5.1%	12.1%	3.2%	11.3%	8.0%
	NRW	Volume	203.868	444.641	226.611	263.128	531.568
		Percentage	10.1%	26.8%	13.3%	14.4%	27.8%
	Water Losses	Volume	181.390	398.123	135.815	118.513	371.243
		Percentage	9.0%	23.9%	8.0%	6.5%	19.4%
	ILI		3.09				8.55
	The current treatment losses is low and acceptable. The NRW and Water Losses decreased drastically during the last financial year, which is excellent. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 3.09 indicates a good management system, with no urgent action required although the NRW and water losses should be monitored carefully.						
Montagu	Treatment Losses	Volume	453.957	258.099	194.590	191.817	204.645
		Percentage	31.5%	19.6%	15.8%	14.3%	15.8%
	NRW	Volume	50.030	29.828	69.327	79.369	143.294
		Percentage	5.1%	2.8%	6.7%	6.9%	13.1%
	Water Losses	Volume	5.262	27.714	67.250	77.063	141.109
		Percentage	0.5%	2.6%	6.5%	6.7%	12.9%
	ILI		0.49				1.39
Langeberg Municipality	NRW	Volume	1 097.582	1 443.285	1 097.138	1 129.007	1 618.464
		Percentage	12.9%	18.7%	14.7%	15.9%	21.0%
	Water Losses	Volume	866.943	1 384.637	994.836	972.851	1 446.575
		Percentage	10.2%	17.9%	13.3%	12.8%	18.8%
	ILI		2.48				3.89
	The NRW and Water Losses decreased during the last financial year, which is excellent. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs						

Treatment Losses, NRW, Water Losses and ILIs for the various water distribution systems						
Description	Component	Unit	24/25	Record: Prior (Ml/a)		
				23/24	22/23	21/22
	to keep the NRW below 20% and the water losses below 15% for all the systems combined. The ILI of 2.48 for all the systems indicates good management systems, which should be monitored carefully.					

Notes:

Infrastructure Leakage Index (ILI) for Developed Countries = **1 – 2 Excellent (Category A)**, **2 – 4 Good (Category B)**, **4 – 8 Poor (Category C)** and **> 8 – Very Bad (Category D)**

Category A = No specific intervention required.

Category B = No urgent action required although should be monitored carefully.

Category C = Requires attention

Category D = Requires immediate water loss reduction interventions

The DWS developed the WC/WDM scorecard to establish areas where the municipality has made good progress in relation to WC/WDM and where there is still room for improvement. **The status quo score for Langeberg Municipality is 69 out of 100 suggesting that the Municipality is making good progress with regard to the implementation of specific WC/WDM activities.**

Water Services Infrastructure Management

Langeberg Municipality's existing Asset Register needs to be updated to also include the CRC of the water and sewerage infrastructure. The Municipality needs to ensure that all current water and sewerage infrastructure are included in the Asset Register. The total opening costs, carrying values, RUL, age and condition grading of the water and sewerage infrastructure currently included in the Asset Register are summarised in the table below.

Opening costs, Carrying values, RUL and Age distribution of the water and sewerage infrastructure included in the Asset Register					
Asset Type			Opening Costs	Carrying Values	% Carrying Value / Opening Cost
Water Infrastructure			R216 030 435	R160 435 407	74%
Sewerage Infrastructure			R134 383 735	R110 078 869	82%
RUL					
Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Water Infrastructure	R24 706 520	R14 929 458	R18 779 686	R37 090 565	R120 524 206
Sewerage Infrastructure	R16 676 743	R12 656 095	R25 178 176	R22 712 321	R57 160 400
Age Distribution					
Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Water Infrastructure	R31 909 633	R77 997 801	R55 392 692	R16 814 155	R33 916 154
Sewerage Infrastructure	R17 494 072	R60 260 369	R22 994 091	R13 586 589	R20 048 614
Condition Grading					
Asset Type	Very Good	Good	Fair	Poor	Very Poor
Water Infrastructure	R159 858 263	R11 988 726	R40 309 689	R1 485 194	R2 388 563
Sewerage Infrastructure	R115 575 861	R7 785 965	R9 927 662	R706 021	R388 226

The percentages carrying values over opening costs in the above table indicate that 26% of the value of the water infrastructure and 18.0% of the value of the sewerage infrastructure has been consumed.

The asset renewal needs for the water infrastructure assets over the next 10 years is R3.964 million per year. The reinvestment required is R24.707 million in the first 5 years and R14.929 million in the second 5-year period. The age of 15.70% of the water infrastructure assets is greater than 20 years. The condition of 1.79% of the water infrastructure assets is poor or very poor. The asset renewal needs for the sewerage infrastructure assets over the next 10 years is R2.933 million per year. The reinvestment required is R16.678 million in the first 5 years and R12.656 million in the second 5-year period. The age of 14.92% of the sewerage infrastructure assets is greater than 20 years. The condition of 0.81% of the sanitation infrastructure is poor or very poor.

Some of the key challenges of Langeberg Municipality are to identify adequate funds for the rehabilitation and maintenance of their existing infrastructure, which is critical to ensure the sustainability of the services that are provided by the Municipality. It is important for the Municipality to secure adequate funding for major refurbishment and maintenance work, the provision of bulk infrastructure and development of additional sources for Bonnievale, Montagu, Ashton and Robertson in order to keep up with the high demand for services.

Water Services Operation and Maintenance

Design-out Maintenance, Preventative Maintenance and Corrective or Breakdown Maintenance are practised by Langeberg Municipality (Planned and unplanned preventative and corrective maintenance). Adequate resources, information and activity control and management are in place to ensure proper operation and maintenance of the water and sewerage infrastructure.

The budgets allocated towards the refurbishment / replacement of the existing old water and sewerage infrastructure needs to be increased. The total CRC of the water and sewerage infrastructure is R1 883 274 756 and an annual budget of at least R37 665 495 is required for the refurbishment / replacement of the old water and sewerage infrastructure. A budget of approximately 2% of the total asset value per annum should be allocated towards the replacement of existing infrastructure. In the case of the operations and maintenance of the systems, a budget of approximately 1% to 2% of the value of the system is typically required to ensure that the systems remain in good condition.

The average annual capital expenditure over the last six financial years was R9 994 969 for water infrastructure and R17 996 571 for sewerage infrastructure, which include the replacement of old infrastructure and new infrastructure. Compared to the required refurbishment / replacement annual budget of R37 665 495 it can be noted that the current budget allocations towards the replacement / refurbishment of old water and sewerage infrastructure are insufficient.

Water Resources

The Western Cape experienced a severe drought over the period 2015 to 2017, with some relief during the winter months of the following years. This drought over the period 2015 to 2017 reduced the safe yields of the Municipality's own existing surface water resources. The Municipality therefore continued with the implementation of specific WC/WDM measure to lower the current water requirements and the augmentation of the existing water sources of Montagu with groundwater.

The table below gives an overview of the years in which the annual water requirement will exceed the allocations or sustainable yields of the various resources.

Years in which the annual water demand is likely to exceed the total allocations / yields from the various resources				
Distribution System	Total Allocation / Yield (x 10 ⁶ m ³ /a)	Annual Growth on 2024/2025 Demand (Percentage growth)	Annual Growth on 2024/2025 Demand (Percentage growth)	WSDP Projection Model
Robertson	3.265 (Yield)	2025 (1.5%)	2025 (3.0%)	2025
McGregor	1.200 (Allocation)	>2049 (1.5%)	>2049 (3.0%)	>2049
Bonnievale	1.245 (Allocation)	Over (1.5%)	Over (3.0%)	Over
Ashton	2.963 (Allocation)	2046 (1.5%)	2034 (3.0%)	2034
Montagu	1.490 (Yield)	2025 (1.5%)	2025 (3.0%)	2025
Ashton and Montagu	4.453 (Yield & Allocations)	2041 (1.5%)	2032 (3.0%)	2029

The immediate augmentation of Robertson, Bonnievale, Montagu and Ashton water sources is critical in order to meet future water requirements. The allocation for Bonnievale from the Zanddrift WUA canal is already exceeded, as well as the allocations and safe yields of the Montagu sources.

Water Services Institutional Arrangements and Customer Services

Langeberg Municipality is the official WSA for the entire Municipal Management Area and also acts as the WSP for the whole area. The Municipality updated their WSDP during the 2024/2025 financial year, which was approved by Council on the 4th of December 2024. WSDP Performance and Water Services Audit Reports are also compiled annually, which are approved by Council with the Municipality's Annual Report. Water Services Bylaws are in place, which cover the provision of services for water supply, sanitation and industrial effluent. The Municipality rolled out a performance framework within the organisation up until the level of supervision.

Langeberg Municipality's Vulnerability Index for 2024 was indicated as 0.58 "High Vulnerability". The areas of concern evident from the 2024 assessment are Financial Asset Management (40.0%, Extreme Vulnerability), Technical Staff Capacity (Numbers) (45%, Extreme Vulnerability), Wastewater/Environmental Safety & Regulatory Compliance (45%, Extreme Vulnerability), Basic Sanitation (50%, High Vulnerability), Infrastructure Asset Management (50%, High Vulnerability) and Operation and Maintenance of Assets (55%, High Vulnerability).

The Municipal personnel is continuously exposed to training opportunities, skills development and capacity building at a technical, operations and management level in an effort to create a more efficient overall service to the users. A Workplace Skills Plan is compiled every year and the specific training needs of the personnel, with regard to water and wastewater management are determined annually. All the WTWs and WWTWs in Langeberg Municipality's Management Area and the Process Controllers working at these plants were registered on the IRIS in terms of the new Regulation 3630 requirements.

Langeberg Municipality is currently effectively managing its water and sanitation services. Urgent attention is however required to address the backlog in infrastructure replacement and refurbishment. All forward planning for water and sanitation services should be guided by the Water and Sewer Master Plans and the WSDP.

A comprehensive Customer Services and Complaints system is in place at Langeberg Municipality and the Municipality has maintained a high and a very consistent level of service to its urban water consumers. After hour emergency requests are being dealt with by the Emergency and Customer Call Centre on a twenty four hour basis. Requests are furthermore captured on an electronic mail or works-order system to ensure execution thereof.

The Municipality's Emergency and Customer Call Centre is in operation for more than eight years with four permanent Call Centre Operators operating on a fully functional and effective 24 hour, seven days a week, call answering facility in case of emergencies and to respond to customer queries regarding municipal services across the entire Langeberg Municipal area.

The Water Safety Plans of Langeberg Municipality includes an Improvement / Upgrade Plan. The purpose of the Improvement / Upgrade Plan is to address the existing significant risks where the existing controls were not effective or absent. Barriers implemented by Langeberg Municipality against contamination and deteriorating water quality include the following:

- Participate in Catchment management and water source protection initiatives.
- Protection at points of abstraction such as river intakes and dams (Abstraction Management).
- Correct operation and maintenance of WTWs (Coagulation, flocculation, sedimentation and filtration).
- Protection and maintenance of the distribution system. This includes ensuring an adequate disinfectant residual at all times, rapid response to pipe bursts and other leaks, regular cleaning of reservoirs, keeping all delivery points tidy and clean, etc.

Three other important barriers implemented by Langeberg Municipality against poor quality drinking water that are a prerequisite to those listed above are as follows:

- A well informed Council and top management that understands the extreme importance of and are committed to providing adequate resources for continuous professional operation and maintenance of the water supply system.
- Competent managers and supervisors in the technical department who are responsible for water supply services and lead by example and are passionate about monitoring and safeguarding drinking water quality.
- Well informed community members and other consumers of water supply services that have respect for water as a precious resource.

LANGEBERG MUNICIPALITY

ANNUAL WSDP PERFORMANCE AND WATER SERVICES AUDIT REPORT FOR 2024/2025

BACKGROUND

Appointment

iX engineers were appointed by Langeberg Municipality to assist them with the compilation of their WSDP Performance- and Water Services Audit Report, which forms part of their annual report for the 2024/2025 financial year. The purpose of the WSDP Performance- and Water Services Audit Report is to report on the implementation of Langeberg Municipality's previous year's WSDP, for the 2024/2025 financial year.

The DWS developed the "Annual Water Services Development Plan Performance- and Water Services Audit Report" template during 2014, to assist Municipalities with the drafting of their reports. iX engineers agreed with Langeberg Municipality to follow this template as far as possible.

Purpose

Langeberg Municipality is required in terms of Section 18 of 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, to report on the implementation of its WSDP during each financial year and to include a water services audit in such an annual report.

Section 62 of the Water Services Act further requires the Minister to monitor every WSI in order to ensure compliance with the prescribed national standards. This regulation requires a WSA to complete and submit a WSDP Performance- and Water Services Audit every financial year. The WSDP Performance- and Water Services Audit is designed to monitor the compliance of the WSA and other WSIs with these regulations. The Water Services Act allows the audit to be used as a tool to compare actual performance of the WSA against the targets and indicators set in their WSDP. The purpose of the WSDP Performance- and Water Services Audit is as follows:

- To monitor compliance with the Act and these regulations;
- To compare actual performance against targets contained in the WSDPs.
- To identify possibilities for improving water conservation and water demand management.

The WSDP Performance- and Water Services Audit Report will give an overview of the implementation of the Municipality's previous year's WSDP, for the 2024/2025 financial year, and can be seen as an annexure to Langeberg Municipality's Annual Report. 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). The WSDP Performance- and Water Services Audit Report contains the following detail information:

- The Municipality's performance with regard to their KPIs for water and sewerage services for the 2024/2025 financial year, as included in the Municipality's SDBIP.
- The Municipality's Performance with regard to DWS's Blue-, Green- and No Drop Assessments. Blue drop status is awarded to those water schemes that comply with 95% criteria on drinking water quality management. Green drop status is awarded to those WWTWs that comply with 90% criteria on key selected indicators on wastewater quality management. No drop status is awarded to those WSAs that comply with 90% criteria to water use efficiency (Acceptable performance in water demand management in the municipal sector).

- DWS's Scorecard for assessing the potential for WC/WDM efforts in the Municipality.
- Information to be included in a WSDP Performance- and Water Services Audit as stipulated in regulations under section 9 of the Water Services Act, "Guidelines for Compulsory National Standards" and as required by DWS's 2014 WSDP Performance and Water Services Audit Report guidelines.
- Information on the implementation of the various WSDP activities, as included under the WSDP Business Elements in DWS's WSDP guidelines.

The Revised Compulsory National Water and Sanitation Standards, as published in Government Gazette No.52814 of 6 June 2025, include the following Water Services Audit, as a component in the WSDP, requirements (Section 26):

- 26 (1) A Water Services Institution must include a water services audit on its annual report on the implementation of its WSDP required in terms of section 18(1) and (2)(a) of the Act, which must also be submitted to the department, using the WSDP platform at www.ws.dws.gov.za/wsdp.aspx, on an annual basis, within four months after the end of each municipal financial year.
- (2) A Water Services audit must assess compliance to these compulsory Standards and must as a minimum, contain the following details:
- (a) The quantity of water services provided which must include 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 wastewater received at sewage treatment works.
 - (iv) the quantity of wastewater not discharged to wastewater treatment works and approved for use by the Water Services Institution.
 - (v) the quantity of faecal sludge received at faecal sludge treatment works and beneficiated.
 - (vi) the quantity of faecal sludge disposed and the coordinates on the disposal site.
 - (b) The levels of services rendered which must include 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 90m at the consumer connection.
 - (iv) the number of households provided with sanitation services through consumer installations connected to the sewerage system.
 - (v) the number of households with access to basic sanitation services.
 - (vi) the number of new water supply connections.
 - (vii) the number of new sanitation connections.
 - (viii) the number of on-site sanitation systems in each user sector.
 - (ix) the number of households provided with onsite sanitation through communal facilities.
 - (x) the type of on-site sanitation systems.
 - (xi) the number of new onsite sanitation systems provided.
 - (xii) the number of sanitation systems with full containments (tanks or pits).

- (c) The numbers provided in compliance with sub-regulation (2) (b) must be expressed as a percentage of the total number of connections or households.
- (d) A record of all water measuring devices installed (including Bulk, Zonal, District, and Consumer meters) and water measuring devices tested must include at least-
 - (i) the number of new measuring devices installed.
 - (ii) the number of measuring devices tested (in-situ-verification).
 - (iii) the number of measuring devices replaced expressed as a percentage of the total number of meters installed on an annual basis.
- (e) The water quality sampling programme required under regulation 5 (4), the results of the comparison set out in regulation 5 (5) and any non-compliance reported as required under regulation 5 (6).
- (f) Water conservation and water demand management must include at least-
 - (i) the results of the water balance as set out in regulation 17.
 - (ii) the total quantity of water losses and non-revenue water.
 - (iii) the demand management activities undertaken.
 - (iv) measures implemented to reduce water losses and non-revenue water.
 - (v) the progress made in the installation of water efficient devices; and
 - (vi) performance measured against key performance indicators.
- (g) A Water Services Institution's compliance status to regulation 20 (2) and 20 (3) and progress of implementation toward achieving compliance.
- (h) The integrated response plan to mitigate the adverse impact of electricity supply on critical water services infrastructure.
- (i) Evaluation of efficacy of measures implemented to address risk findings from the annual condition assessment and three-yearly process audits as required for water treatment works and the water supply network (sub-regulation 22) and the wastewater system (sub-regulation 23).
- (j) A Water Services Institution must provide evidence of the operations and maintenance expenditure per annum which must be measured in relation to the original budget contemplated in regulation 24 (2).

A. WATER SERVICES AUTHORITY PROFILE

A.1. Map of Water Services Authority Area of Jurisdiction

Langeberg Municipality is located in the Cape Winelands District of the Western Cape, as indicated on the figure below.



Figure A.1.1: Location of Langeberg Municipality in the Western Cape

The figure below gives an overview of Langeberg Municipality's Management Area and the settlements located in the area.



Figure A.1.2: Langeberg Municipality's Management Area

The various schemes supplied with bulk water by Langeberg Municipality are discussed in more detail under Section A.3. The existing water and sewerage infrastructure of the various distribution systems are indicated on the Aerial Photos included in the Municipality's detail WSDP documents.

A.2. Water Services Administration and Organization

Langeberg Municipality is the WSA for the entire Municipal Management Area. Langeberg Municipality's list of Civil Engineering Services Personnel is included in Annexure G. The table below gives the contact details of the persons responsible for water services management and planning within Langeberg Municipality.

Table A.2.1: Water Services Administrative Structure	
Accounting Officer	
Designation	Municipal Manager
Name	Mr. D. Lubbe
Telephone Nr.	023 615 8001
Cell Nr.	084 604 8985
Email	mm@langeberg.gov.za
WSA Manager	
Designation	Director Engineering Services
Name	Mr. D. Louwrens
Telephone Nr.	023 615 8000
Cell Nr.	079 895 2570
Email	DLouwrens@langeberg.gov.za
WSP Manager	
Designation	Senior Manager: Civil Engineering Services
Name	Mr. C.G.H. Posthumus
Telephone Nr.	023 615 8000
Cell Nr.	083 233 9308
Email	cposthumus@langeberg.gov.za
WSDP Manager	
Designation	Senior Manager: Civil Engineering Services
Name	Mr. C.G.H. Posthumus
Telephone Nr.	023 615 8000
Cell Nr.	083 233 9308
Email	cposthumus@langeberg.gov.za
IDP Manager	
Designation	Manager: Integrated Development Plan (IDP), Communication And Performance Management System (PMS)
Name	Ms. A. Swarts
Telephone Nr.	023 626 8201
Cell Nr.	082 937 1840
Email	aswarts@langeberg.gov.za

A.3. Water Services Overview

Langeberg Municipality is situated within the Breede-Olifants Water Management Area (WMA) and is located within the Cape Winelands District of the Western Cape Province, in which the following municipalities are also located.

- Witzenberg Municipality;
- Drakenstein Municipality;
- Stellenbosch Municipality;
- Breede Valley Municipality; and
- Cape Winelands District Municipality.

The Cape Winelands District Municipal Area covers an approximate area of 22 309 km² and the Langeberg Municipality Management Area covers an approximate area of 4 517.4 km², which includes 1 184.54 km² of the former Cape Winelands District Municipality's Management Area. The former District Management Area consists mostly of extensive farming, natural veld and large game farms.

Langeberg Municipality consists of twelve (12) individual wards and is the only WSA within this municipal area and is also the bulk Water Services Provider. Langeberg Municipality's Management Area includes the following towns and urban areas (**Water Distribution Systems**).

- Robertson – **Robertson Water Distribution System;**

Robertson is located at the foot of the Langeberg Mountains with the Breede River in close proximity and is the largest economic centre of the Langeberg Local Municipality. The town is the western gateway to the longest wine route in the world, Route 62, and is 158 km from Cape Town. With 150 years of history and Victorian buildings, Robertson is one of the largest wine-producing regions in South Africa. The Robertson Wine Valley offers a number of cellars, cooperatives and private estates for wine lovers. The key tourism attractions here are its natural attraction, the wine route and outdoor activities.

- McGregor – **McGregor Water Distribution System;**

McGregor is a well-preserved mid-19th century town and offers outdoor activities, arts and crafts, tranquillity and relaxation. The village is home to fruit orchards, olive groves and vineyards and is home to many artists. Activities on offer include walking / hiking trails, mountain biking, 4x4 trails, bird watching as well as a pottery studio, art galleries, massage therapies and much more.

- Bonnievale – **Bonnievale Water Distribution System;**

Bonnievale is situated on the banks of the Breede River and is home to fruit and wine farms in its surrounds. With the Langeberg Mountain Range in the north-east, and the Riviersonderend mountains in the south-west, it is considered one of the most beautifully situated towns in the Western Cape. There are eight Wine Cellars in the area and two cheese factories producing cheese, butter, milk, yoghurt and whey powder. A water channel scheme built more than 100 years ago provides Bonnievale with much of its water. The town is also known for its water and many outdoor activities such as golf.

- Ashton – **Ashton Water Distribution System;**

Ashton is a small town situated on the R62, between Robertson and Swellendam at the foot of the Langeberg mountains. It is the heart of the Langeberg Municipal area and hosts its administrative offices. It is an important wine producing and fruit processing centre and some well-known wineries and two large canneries. Many artists reside in and around the town which also offers adventure tourism activities like river cruises, mountain climbing, hiking, etc.

- Montagu – **Montagu Water Distribution System;**

Montagu lies between two mountain ranges halfway between Cape Town and the Garden Route, on the legendary Route 62. It is considered as the gateway to the Little Karoo and also the scenic heart of Route 62. This historic link between Cape Town, Oudtshoorn, the Garden Route and the Eastern Cape, goes through spectacular scenery and mountain passes. The hot springs in the area form part of the

popular Montagu Baths. The area is known for its dry but healthy climate, nature reserves, hiking trails, 4x4 routes, cycling and cuisine.

The towns supplied with bulk water by the Langeberg Municipality are as follows (refer to Annexure A for schematic layouts of all the water distribution systems).

Robertson: The town receives its bulk water from three sources, namely from the Langeberg Mountains (the Dassieshoek and Koos Kok Dams), from the Robertson (Brandvlei) Irrigation Canal and from the Hoops River Irrigation Scheme. The water from the mountains and a portion of the water from the Hoops River and the Irrigation Canal are used for the potable water requirements of the Town and the other water sources for garden irrigation or "leiwater" purposes. The Dassieshoek Dam was built in 1992 and the Koos Kok Dam in 1980 and both are in a good condition, but the yield of both dams is unknown. The licensed abstraction from the dams is 1.324 million m³/a.

The Municipality is scheduled for 1.279 million m³/a from the Robertson (Brandvlei) Irrigation Canal, which currently provides supply to the WTW and "leiwater" for residential plots. A portion of the water is pumped from the Gamgrove Dam to the WTW for treatment. This water originates from storage in the Brandvlei Dam, which is released into the Breede River, when required for irrigation or domestic use.

Water from the Hoops River is diverted at two different diversion structures either directly to the WTWs or to an irrigation dam (the Gamgrove Dam). The available volume of water from the Hoops River is limited by the diversion capacity of 21 l/s. This is almost always available and relates to about 0.662 million m³/a.

The total annual volume of water available for Robertson is therefore 3.264750 million m³/a.



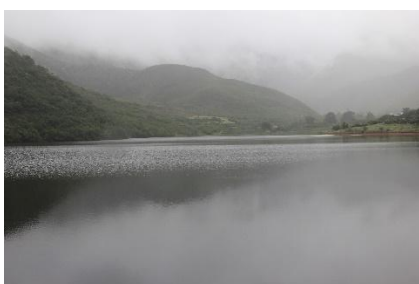
Off-take from Brandvlei Canal



Brandvlei Canal at WWTW



Koos Kok Dam



Dassieshoek Dam



Hoops River Off-take



Gamgrove Dam in town

McGregor: The town obtains their water from the Houtbaais River Scheme which belongs to the McGregor Water User Association (WUA). The town has a 52% share of the 2.52 million m³/a in the scheme. The Municipality's listing is for 374.7 ha of the total 720.88 ha irrigation rights, which works out to a volume of 1.31 million m³/a. The raw water quality is very good with a low pH. There are also two municipal boreholes in McGregor, but they are currently not in operation as a result of poor water quality. Water is also supplied via "leiwater" furrows to irrigators within a part of the town.



Raw water canal from Houtbaais River



New Dam: Supply to WTW



Rooi Dam: Supply to WTW and "leiwat" to town



Vaal Dam: Supply to WTW and "leiwat" to town

Bonnievale: The town receives its raw water from an irrigation canal owned and operated by the Zandrif Water User Association (WUA) and from direct abstraction from the Breede River. The canal is fed from water released from the Brandvlei Dam into the Breede River. Bonnievale has an allocation from the canal of 1.245 million m³/a. Water is also pumped directly from the Breede River to the WTW. The Municipality however has no additional water rights from the Breede River. The salinity levels along this part of the Breede River are managed by DWS through freshening releases. Salinity problems might be experienced during periods when the canal is out of commission and water is pumped directly from the Breede River.



Off-take from Zandrif Irrigation Canal



Abstraction from Breede River

Ashton: Ashton receives water from the Greater Brandvlei Dam which is released into and conveyed by the Breede River. It is abstracted by three schemes:

- It's been diverted into the Robertson irrigation canal from which the Municipality has an allocation of 0.294 million m³ for the period November to February and an allocation of 0.899 million m³ for the period March to October. The total volume available is therefore 1.193 million m³/a.
- An additional 0.270 million m³ per year is also obtained via the Cogmanskloof Irrigation Board scheme.
- The Municipality built their own pumping scheme in 2000, which pump water directly from the Breede River for Ashton. The water right of the Municipality is for 1.5 million m³ per year.

The total annual volume of water available for Ashton is therefore 2.962528 million m³/a. The salinity in the Breede River is controlled by freshening releases from Brandvlei Dam but flush floods mobilises some of the stagnant water at times. Operation procedures must make provision for these events.



Off-take from CBR



Off-take from Robertson Canal



Abstraction from Breede River

Montagu: The town is supplied with bulk water from two local streams (Kruis River and Rietvlei River) and the CBR Pumping Scheme. Raw water from the Breede River is also pumped during the winter months from the Montagu Raw Water PS at Ashton to Montagu, as an additional source.

The total water availability per source for Montagu is estimated to be as follows:

Table A.3.1: Allocations and Yields of the various sources supplying the Montagu System		
Source	Allocation / Yield	Volume (Ml/a)
Keurkloof River	Average annual run-off as recorded (Estimated Yield)	74.000
Kruis River	Average annual run-off as recorded (Estimated Yield)	124.000
Rietvlei River	Average annual run-off as recorded (Estimated Yield)	369.000
Cogmanskloof Irrigation Scheme	Allocation of 75 Ha at 7 000 m ³ per Ha	525.000
	Allocation of 20 Ha winter water at 7 000 m ³ per Ha	140.000
Breede River	Allocation of 1.500 million m ³ /a from the Breede River (Montagu & Ashton)	Incl. with Ashton
Total		1 232.000

The table below gives an overview of the resources and the WTWs and treatment processes for the various water distribution systems in Langeberg Municipality's Management Area.

A.3.2: Existing water resources and treatment works			
Water Distribution System	Bulk Supply	WTWs	
	Resources	WTW	Treatment Processes
Robertson	Brandvlei Irrigation Scheme (Breede River), Dassieshoek and Koos Kok Dams and Hoops River Irrigation Scheme	Robertson	Flow measurement (Inflow and Outflow), Chemical dosing (Coagulation Zeta floc), Stabilisation (Pre and Post Soda Ash), Hydraulic flocculation (Three in parallel feeding the sedimentation tanks separately), Gravity Sedimentation (Two horizontal flow sedimentation tanks and one Mohr type circular upward flow sedimentation tank), Filtration (Six rapid gravity sand filters), Disinfection (Chlorine gas in use. Klorman tablets used for standby) and Sludge Handling (Two sludge dams).
McGregor	Houtbaais River	McGregor	Flow measurement (Inflow and Outflow), Chemical dosing (Coagulant currently Amanzi Floc 122, but to be changed to Zeta Floc), Stabilisation (Pre and Post Soda Ash), Gravity Sedimentation (Two circular sedimentation tanks), Filtration (First stage – Two pressure sand filters and Second Stage – Two pressure filters), Disinfection (Chlorine gas in use. Klorman tablets used for standby).
Bonnievale	Irrigation Canal (Zanddrift WUA) and Breede River	Bonnievale	Flow measurement (Inflow and Outflow). <u>Process Lane A (New Section):</u> Chemical dosing (Coagulant Amanzi floc 122 and Poly Activated Carbon when required), Hydraulic flocculation, Gravity Sedimentation (Circular vertical flow sedimentation tank and a horizontal flow sedimentation tank). <u>Process Lane B (Old Section):</u> Chemical dosing (Coagulant Amanzi floc 122 and Poly Activated Carbon when required), Hydraulic flocculation., Gravity Sedimentation (Two horizontal flow sedimentation tanks), Filtration (Twenty two pressure sand filters, sixteen old and six new), Post-Stabilisation (Soda Ash), Disinfection (Chlorine gas in use. Klorman tablets used for standby) and Sludge

A.3.2: Existing water resources and treatment works			
Water Distribution System	Bulk Supply	WTWs	
	Resources	WTW	Treatment Processes
			Handling – Sludge dam.
Ashton	Breede River (Montagu Included), Cogmanskloof Irrigation Scheme (CBR) and Robertson Canal (Breede River)	Ashton	Flow measurement (Inflow and Outflow) <u>Old Section:</u> Chemical dosing (Coagulant Amanzi floc 122), Hydraulic flocculation (Two channels), Gravity Sedimentation (Two horizontal flow sedimentation tanks and four square vertical flow sedimentation tanks), Filtration (Ten pressure filters: Grouped together as 2, 3 and 5 filters). <u>New Section:</u> Chemical dosing (Amanzi floc 122), Hydraulic flocculation (One channel), Gravity Sedimentation (New horizontal flow sedimentation tank), Filtration (Three new rapid gravity sand filters), Disinfection (Chlorine gas in use. Klorman tablets used for standby) and Sludge Handling (Off-site treatment plant residuals holding ponds).
Montagu	Cogmanskloof (From Ashton), Cogmanskloof Irrigation Scheme (CBR), Rietvlei and Kruis River.	Montagu	Flow measurement (Inflow and Outflow), Aeration (Cascade), Chemical dosing (Coagulant Amanzi floc 122 and PAC when required), Gravity Sedimentation (Six upflow sludge blanket clarifiers), Filtration (Four direct upflow filters), Stabilisation (Four limestone stabilisation tanks), Disinfection (Chlorine gas in use. Klorman tablets used for standby) and Sludge Handling (Two sludge dams).

The existing capacities, current flows and required treatment capacities at each of the WTWs and the water quality failures for the distribution systems are summarised in the table below.

Table A.3.3: Existing capacities, current flows and required treatment capacities at each of the WTWs and water quality failures for the distribution systems						
WTW	Existing Hydraulic Capacity	Peak Month Average Daily Flow	Average Daily Flow (Jul 204 – Jun 2025)	Average Daily Flow as a percentage of Capacity	Required Treatment Capacity (1.5 x AADD10yr)	2024/2025 Water Quality Failures
	MI/d	MI/d	MI/d	%	MI/d	SANS0241:2015
Robertson	10.140	10.481 (Jan and Mar)	8.711	85.91%	15.164	Turbidity (Operational), Aluminium
McGregor	0.600	1.688 (Febr)	0.949	158.17%	1.652	Turbidity (Operational), Aluminium, Total Coliform Count
Bonnievale	5.000	6.666 (Febr)	5.886	117.72%	10.673	Turbidity (Operational), Aluminium, E.Coli, Total Coliform Count
Ashton	11.910	10.791 (Febr)	5.809	48.77%	10.112	Turbidity (Operational), Aluminium
Montagu	5.180	5.426 (Febr)	3.950	76.25%	6.876	E.Coli, Total Coliform Count, Manganese (Aesthetic)

The existing water reticulation networks, pump stations and reservoirs are summarised in the table below for each of the water distribution systems.

A.3.4: Existing water reticulation networks, pump stations and reservoirs						
Water Distribution System	Water Distribution Networks		Number of Water PS		Reservoirs	
	Bulk	Internal	Raw Water	Potable Water	Number of Reservoirs	Total Storage in MI
	km	km	Number of PS	Number of PS		
Robertson	6.537	105.216	2	4	6 *	17.700 *
McGregor	0.783	23.008	3	1	2 **	2.450 **
Bonnievale	4.174	51.262	1	4	3	6.750
Ashton	17.298	51.445	3	4	4	8.900
Montagu	28.422	62.527	-	8	11	10.220
Total Langeberg	57.214	293.458	9	21	26	43.020

Notes * Exclude Robertson WTW square clear-well

** Exclude 0.510 MI reservoir currently not in use

The table below gives an overview of the WWTWs and other sewerage infrastructure in Langeberg Municipality's Management Area.

A.3.5: Existing WWTWs and other sewerage infrastructure					
WWTWs and Treatment Processes			Sewer Drainage Network		Number of Sewer PS
Hydraulic Capacity	Organic Capacity	Treatment Processes	Rising	Gravity	
MI/d	kg COD/d		km	km	
Robertson Sewer Drainage Network					
4.300	5 148	Robertson WWTW: <u>Primary Treatment:</u> Inlet works (Front raked mechanical screen, hand raked screens and two grit channels) and PSTs (x2). <u>Secondary Treatment:</u> Biofilters (x2), Humus Tanks (x2), MLE Biological Reactor (Anoxic and Aerobic) and SST (x1). <u>Tertiary Treatment:</u> Maturation Ponds, Disinfection (Chlorine tablets). <u>Sludge Management:</u> Anaerobic Digester, Mechanical Dewatering and Sludge drying beds.	3.450	89.171	3
McGregor Sewer Drainage Network					
0.300	187	McGregor WWTW: <u>Primary Treatment:</u> Inlet works (Hand raked screen) and Anaerobic Septic Tank. <u>Secondary Treatment:</u> Oxidation pond with surface aerator. <u>Tertiary Treatment:</u> Maturation ponds (x2) and disinfection (Ozone)	0.00	10.737	1
Bonnievale Sewer Drainage Network					
1.800	1 600	Bonnievale WWTW: <u>Primary Treatment:</u> Inlet works (Rotary drum screen, bar screen and grit channels). <u>Secondary Treatment:</u> MLE Biological Reactor (Anoxic and Aeration) and SSTs (x2). <u>Tertiary Treatment:</u> Maturation ponds (x4) and disinfection (Chlorine tablets). <u>Sludge Management:</u> Sludge drying beds	7.677	31.896	10
Ashton Sewer Drainage Network					
2.430	2 720	Ashton WWTW: <u>Primary Treatment:</u> Inlet works (Rotary drum screens, bar screen and grit channels) and PSTs (x2). <u>Secondary Treatment:</u> Three lane and two lane Biological Reactors (Aeration) and SSTs (x2). <u>Tertiary Treatment:</u> Maturation ponds (x6) and disinfection (Chlorine tablets). <u>Sludge Management:</u> Anaerobic Digester and Sludge drying beds.	3.141	36.725	4
Montagu Sewer Drainage Network					
3.500	2 695	Montagu WWTW: <u>Primary Treatment:</u> Inlet works (Mechanical front raked screen, two manually raked coarse screens, grit channels and two Pista vortex degritters). <u>Secondary Treatment:</u> Three Stage Badenpho Reactor (Anaerobic, Anoxic and Aerobic basins) and SSTs (x3). <u>Tertiary Treatment:</u> Maturation ponds (x3) and disinfection (Chlorine Tablets). <u>Sludge Management:</u> Sludge drying beds	4.496	68.739	4
Total Langeberg			18.764	237.268	22

Note: The Robertson WWTW is currently being upgraded. The new hydraulic design capacity will be 8.540 MI/d and the new organic design capacity will be 10 077 kg COD/d.

The table below gives a summary of the existing hydraulic design capacities and current flows at each of the WWTWs, as well as the final effluent quality compliance percentages for the 2024/2025 financial year.

Table A.3.6: Existing hydraulic design capacities, flows and final effluent compliance percentages at each of the WWTWs						
WWTW	Existing Hydraulic Capacity	Peak Month Average Daily Flow	Average Daily Flow (2024/2025)	Average Wet Weather Flow (May'25, Jun'25, Jul'24, Aug'24)	Average Daily Flow as a % of Design Capacity	Final Effluent Compliance for 2024/2025 against Authorisation
	MI/d	MI/d	MI/d	MI/d	%	
Robertson	4.300	Unknown	5.529 (Estimated from BMC)	Unknown	128.6%	Microbiological: 16.7% Chemical: 44.4% Physical: 38.9% <i>General Limits</i>
McGregor	0.300	0.303 (Jan)	0.242	0.234	78.0%	Microbiological: 91.7% Chemical: 91.7%

Table A.3.6: Existing hydraulic design capacities, flows and final effluent compliance percentages at each of the WWTWs						
WWTW	Existing Hydraulic Capacity	Peak Month Average Daily Flow	Average Daily Flow (2024/2025)	Average Wet Weather Flow (May'25, Jun'25, Jul'24, Aug'24)	Average Daily Flow as a % of Design Capacity	Final Effluent Compliance for 2024/2025 against Authorisation
	MI/d	MI/d	MI/d	MI/d	%	
						Physical: 100.0% <i>Irrigation Limits</i>
Bonnievale	1.800	Unknown	1.485 (Estimated from BMC)	Unknown	82.5%	Microbiological: 27.3% Chemical: 72.7% Physical: 81.8% <i>General Limits</i>
Ashton	2.430	Unknown	1.735 (Estimated from BMC)	Unknown	71.4%	Microbiological: 33.3% Chemical: 66.7% Physical: 63.9% <i>General Limits</i>
Montagu	3.500	2.418 (Apr)	2.151	2.231	61.5%	Microbiological: 58.3% Chemical: 77.8% Physical: 88.9% <i>General Limits</i>

Note: McGregor WWTW: Readings are for the outflow, because only the outflow is metered at the plant.

The organic design capacities of the WWTWs and the current loadings at the WWTWs are indicated in the table below.

Table A.3.7: Existing organic design capacities and loadings at the WWTWs							
WWTW	Organic Design Capacity	2024/2025		2023/2024		2022/2023	
		Average Load	% of Design Capacity	Average Load	% of Design Capacity	Average Load	% of Design Capacity
	kg COD/d	kg COD/d	%	kg COD/d	%	kg COD/d	%
Robertson	5 148	5 635	109.46%	4 927	95.71%	4 380	85.08%
McGregor	187	203	108.56%	215	114.97%	261	139.57%
Bonnievale	1 600	2 695	168.44%	2 018	126.13%	1 422	88.88%
Ashton	2 720	1 329	48.86%	937	34.45%	1 079	39.67%
Montagu	2 695	2 231	82.78%	2 123	78.78%	2 215	82.19%

Population: The population figures for Langeberg Municipality for 2001 was 81 680 persons (20 637 Households) and for 2011 it was 97 724 persons (25 125 Households). The Community Survey of 2016 from Statistics South Africa estimated the 2016 population for Langeberg Municipality at 105 483 persons and the permanent households at 28 401, at an average household size of 3.7 persons per household.

The published 2022 Census population for Langeberg Municipality was 94 045 persons (Annual growth rate of -0.35% over the period 2011 to 2022) and the number of permanent households was 25 370. The 2022 Census data is not yet available per town and it was therefore not possible to update Langeberg Municipality's projected population and households per town at this stage.

The 2024 Socio Economic Profile of Langeberg Municipality (Western Cape Government) indicates the 2024 population of Langeberg Municipality at 127 458 persons and the households at 32 889 (With an annual population growth rate of 1.3% over the period 2024 to 2029). These population and household figures are also included in Langeberg Municipality's 2025/2026 IDP.

The 2024/2025 populations for the various water distribution systems were estimated by applying the annual growth rates as indicated in Table A.3.8. The current population figures and the annual population growth percentages used in the WSDP Performance- and Water Services Audit Report are aligned with the figures used in DWS's GeoDatabase.

The future estimated annual population growth percentages, as listed in the table below, were agreed with the Municipality's Community Services and Engineering Planning Departments during January 2014.

Table A.3.8: Estimated future annual population growth percentages, population and households per town			
Town	Estimated future annual Population Growth %	Projected 2024/2025 Persons	Projected 2024/2025 Permanent Households
Robertson	2.50%	38 204	10 373
McGregor	2.50%	4 308	902
Bonnievale	2.50%	12 533	3 277
Ashton	2.00%	17 237	4 343
Montagu	3.50%	23 735	6 301
Farms	1.00%	33 337	8 175
Total	2.18%	129 354	33 371

The above current population compares well with the population and household figures included in the Municipality's 2025/2026 IDP and the 2024 Socio-Economic Profile of Langeberg Municipality.

The tables below give an overview of the projected population and permanent number of households and the water and sanitation service levels in Langeberg Municipality's Management Area.

Table A.3.9: Water Services Overview (Water)												
Settlement Type	2011/2012		2024/2025		Water category							
	Households	Population	Households	Population	Adequate: Formal	Adequate: Informal	Adequate: Shared Services	Water resources needs only	O&M needs only	Infrastructure needs only	Infrastructure & O&M needs	Infrastructure, O&M & Resource need
URBAN												
Metropolitan Area					Adequate		Below RDP			None		
Sub-Total	0	0	0	0								
Formal Town					Adequate		Below RDP			None		
<i>Robertson</i>	7 075	25 914	9 239	33 668	P	P						
<i>McGregor</i>	539	2 665	867	4 168	P	P						
<i>Bonnievale</i>	2 156	8 208	3 277	12 533	P	P						
<i>Ashton</i>	3 334	13 233	3 704	14 681	P	P						
<i>Montagu</i>	3 939	14 816	5 986	22 475	P	P						
Sub-Total	17 043	64 836	23 073	87 525								
Townships					Adequate		Below RDP			None		
Sub-Total	0	0	0	0								
Informal Settlements					Adequate		Below RDP			None		
<i>Robertson</i>	450	1 800	1 134	4 536		P						P
<i>McGregor</i>	115	460	35	140		P						
<i>Bonnievale</i>	221	884	0	0								
<i>Ashton</i>	23	92	639	2 556		P						P
<i>Montagu</i>	90	360	315	1 260		P						P
Sub-Total	899	3 596	2 123	8 492								
Working towns & service centres					Adequate		Below RDP			None		
Sub-Total	0	0	0	0								
Sub-Total: (Urban)	17 942	68 432	25 196	96 017								
RURAL												
Rural / Farming					Adequate		Below RDP			None		
<i>Langeberg Rural</i>	7 183	29 292	8 175	33 337	P	P						P
Sub-Total	7 183	29 292	8 175	33 337								
Informal Settlements					Adequate		Below RDP			None		
Sub-Total	0	0	0	0								
Sub-Total (Rural)	7 183	29 292	8 175	33 337								
TOTAL	25 125	97 724	33 371	129 354								

Table A.3.10: Water Services Overview (Sanitation)

Settlement Type	2011/2012		2024/2025		Water category									
	Households	Population	Households	Population	Adequate: Formal	Adequate: Informal	Adequate: Shared 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														
Metropolitan Area					Adequate		Below RDP				None			
Sub-Total	0	0	0	0										
Formal Town					Adequate		Below RDP				None			
<i>Robertson</i>	7 075	25 914	9 239	33 668	P		P							
<i>McGregor</i>	539	2 665	867	4 168	P		P							
<i>Bonnievale</i>	2 156	8 208	3 277	12 533	P		P							
<i>Ashton</i>	3 334	13 233	3704	14 681	P		P							
<i>Montagu</i>	3 939	14 816	5986	22 475	P		P							
Sub-Total	17 043	64 836	23 073	87 525										
Townships					Adequate		Below RDP				None			
Sub-Total	0	0	0	0										
Informal Settlements					Adequate		Below RDP				None			
<i>Robertson</i>	450	1 800	1 134	4 536										P
<i>McGregor</i>	115	460	35	140		P								
<i>Bonnievale</i>	221	884	0	0										
<i>Ashton</i>	23	92	639	2 556										P
<i>Montagu</i>	90	360	315	1 260		P								P
Sub-Total	899	3 596	2 123	8 492										
Working towns & service centres					Adequate		Below RDP				None			
Sub-Total	0	0	0	0										
Sub-Total: (Urban)	17 942	68 432	25 196	96 017										
RURAL														
Rural / Farming					Adequate		Below RDP				None			
<i>Langeberg Rural</i>	7 183	29 292	8 175	33 337	P		P							P
Sub-Total	7 183	29 292	8 175	33 337										
Informal Settlements					Adequate		Below RDP				None			
Sub-Total	0	0	0	0										
Sub-Total (Rural)	7 183	29 292	8 175	33 337										
TOTAL	25 125	97 724	33 371	129 354										

B. WSDP PERFORMANCE REPORT

B.1. WSDP Reference and Status

Langeberg Municipality updated their previous WSDP according to DWS's new WSDP website during the 2024/2025 financial year. The new WSDP is for the 2022-2027 WSDP cycle. The new WSDP was submitted to the Executive Mayoral Committee on the 27th of November 2024 and to the Council on the 4th of December 2024 for final approval. The table below gives an overview of the Municipality's WSDP status.

Table B.1.1: WSDP and Reporting Reference						
Nr	WSDP Title and Reference	Status	Date	WSDP Year	Financial Year	Reporting year
1	WSDP Website and WSDP IDP Water Sector Input Report	Drafted:	Aug-Oct 2024	Year 1	2022/23	Year - 2
		Comment submit:	Nov 2024	Year 2	2023/24	Year - 1
		Finalised:	13 Nov 2024	Year 3	2024/25	Year 0
		Adopted:	4 Dec 2024	Year 4	2025/26	Year + 1
		Published:	Jan 2025	Year 5	2026/27	Year + 2

Legend:

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

B.2. 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 and 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 WSDP Performance- and Water Services Audit Report forms a part, records the success or otherwise of the previous year's implementation.

The table below gives an overview of the Municipality's performance on the water and sanitation objectives and strategies per WSDP topic, as taken from the Municipality's SDBIP.

Table B.2.1: Performance on Water Services Objectives and Strategies per WSDP Topic														
Nr	Objective Strategy	Key Performance Indicator	Inclusion (yes/no)		WSDP Year 1		WSDP Year 2		WSDP Year 3		WSDP Year 4		WSDP Year 5	
			WSDP	IDP	FY 1	2020/21	FY 2	2021/2022	FY 3	2022/2023	FY 4	2023/2024	FY 5	2024/2025
					Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
WSDP Topic 1: Administration														
WSDP Topic 2: Demographics														
WSDP Topic 3: Service levels														
2024/2025-40	Provide water to the formal residential properties that are connected to the municipal water infrastructure network as at 30 June	Number of formal residential properties connected to the water infrastructure network and provided with water	Yes	Yes	14 500	14 761	14 500	14 973	14 500	14 907	14 500	14 830	14 800	14 996
2024/2025-42	Number of formal residential properties connected to the municipal waste water sanitation / sewerage network for sewerage service, irrespective of the number of water closets (toilets) and which are billed for sanitation / sewerage.	Number of residential properties which are billed for sanitation / sewerage.	Yes	Yes	14 500	15 027	14 500	15 027	14 500	15 059	14 500	15 418	15 400	15 793
2024/2025-44	Provide free basic water to indigent households as at 30 June.	Number of indigent households receiving free basic water	Yes	Yes	6 800	6 657	7 000	6 685	7 000	6 034	7 000	6 234	7 000	4 748
2024/2025-46	Provide free basic sanitation to indigent households as at 30 June.	Number of indigent households receiving free basic sanitation services	Yes	Yes	6 800	6 673	7 000	6 685	7 000	6 033	7 000	6 091	7 000	4 597
2024/2025-239 Dept	Clean all main sewer line blockages within 24 hours	% of blockages cleaned within 24 hours	Yes	Yes	-	-	-	-	100.00%	50.24%	80.00%	124.27%	80.00%	94.64%
2024/2025-241 Dept	Respond to resident's queries regarding service disruptions and faulty meters within 7 days from when the complaint has been received	% of complaints addressed within 7 days	Yes	Yes	-	-	-	-	100.00%	52.14%	90.00%	136.35%	90.00%	90.33%
2024/2025-242 Dept	Supply individual water and sewerage services within 14 days to formal households on application and payment	% supplied within required timeframe	Yes	Yes	-	-	-	-	100.00%	66.67%	100.00%	83.33%	100.00%	91.67%
WSDP Topic 4: Socio economic														
WSDP Topic 5: Water Services Infrastructure														
2024/2025-21	Purchase four (4) digger loaders by 30 June 2025	Number of diggers purchased	Yes	Yes	-	-	-	-	-	-	-	-	4	5
2024/2025-36	Purchase a jetting tanker truck by 30 June 2025	Jetting tanker truck purchased	Yes	Yes	-	-	-	-	-	-	-	-	1	0
WSDP Topic 6: Operation Maintenance														
2024/2025-18	95% of water samples comply with SANS241 micro biological indicators on a monthly basis	% compliance of samples tested	Yes	Yes	95.00%	100.00%	95.00%	100.00%	95.00%	88.89%	95.00%	96.67%	95.00%	98.75%
2024/2025-20	80% Of effluent samples comply with permit values on a monthly basis.	% of effluent samples compliant	Yes	Yes	80.00%	81.48%	80.00%	81.48%	80.00%	60.73%	80.00%	72.22%	80.00%	70.83%
2024/2025-240 Dept	Report monthly on the compliance with DWS standards by the 15th of the following month	Number of reports submitted	Yes	Yes	-	-	-	-	12	12	12	12	12	12
WSDP Topic 7: Associated services														
WSDP Topic 8: Conservation and Demand management														
2024/2025-19	Limit unaccounted water to less than 20% as at 30 June 2025	% unaccounted water	Yes	Yes	15.00%	13.36%	15.00%	14.00%	15.00%	14.20%	15.00%	18.70%	20.00%	10.59%
WSDP Topic 9: Water Resources														

Table B.2.1: Performance on Water Services Objectives and Strategies per WSDP Topic

Nr	Objective	Key Performance Indicator	Inclusion		WSDP Year 1		WSDP Year 2		WSDP Year 3		WSDP Year 4		WSDP Year 5	
	Strategy		(yes/no)	FY 1	2020/21	FY 2	2021/2022	FY 3	2022/2023	FY 4	2023/2024	FY 5	2024/2025	
			WSDP	IDP	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
WSDP Topic 10: Financial profile														
2024/2025-50	Financial viability measured in terms of the available cash to cover fixed operating expenditure as at 30 June.	Number of months it takes to cover fix operating expenditure with available cash.	Yes	Yes	2.20	3.70	2.20	3.50	2.20	5.24	2.20	3.59	2.2	1.8
2024/2025-48	Financial viability measured in terms of the municipality's ability to meet it's service debt obligations as at 30 June.	% of debt coverage	Yes	Yes	5.00%	5.00%	5.00%	5.00%	25.00%	6.06%	25.00%	4.08%	25.00%	3.18%
2024/2025-49	Financial viability measured in terms of the outstanding service debtors as at 30 June.	% of outstanding service debtors	Yes	Yes	12.00%	9.14%	12.00%	9.14%	12.00%	7.03%	12.00%	8.29%	12.00%	17.09%
2024/2025-52	Achieve a debtors payment percentage of at least 95% by 30 June.	Payment % achieved	Yes	Yes	95.00%	99.68%	95.00%	100.00%	95.00%	99.11%	95.00%	94.12%	95.00%	91.40%
2024/2025-31	Spend 95% of the capital budget allocated to the upgrade Robertson WWTW by 30 June	% Of Budget spent	Yes	Yes	-	-	-	-	95.00%	100.00%	95.00%	98.73%	95.00%	99.94%
	Develop preventative maintenance plans for water, electricity, sanitation and solid waste and submit to Council for approval by 30 November 2022	Number of plans developed and submitted for approval			-	-	-	-	4	0	-	-	-	-
	Spend 95% of the capital budgeted amount for construction of reservoir at Robertson Heights by 30 June 2023 (Total actual expenditure for the project/Total amount budgeted for the project) x 100	% Of Budget spent			-	-	-	-	95.0%	99.0%	-	-	-	-
	Spend 95% of the capital budget allocated to install sewer pipeline in Boekenhoutskloof by 30 June 2023 (Total actual expenditure for the project/Total amount budgeted for the project) x 100	Percentage (%) of the approved capital budget spent			-	-	-	-	95.0%	36.8%	-	-	-	-
2024/2025-228 Dept	Spend 95% of the total capital budget of the department by 30 June (Total actual capital expenditure/Total capital budget)	% of capital budget spent	Yes	Yes	-	-	-	-	95.0%	64.4%	95.00%	71.63%	95.00%	67.26%
2024/2025-229 Dept	Spend 95% of the total maintenance budget of the department by 30 June (Total actual maintenance expenditure/Total maintenance budget)	% of the maintenance budget spent	Yes	Yes	-	-	-	-	95.0%	90.0%	95.00%	84.46%	95.00%	80.15%
2024/2025-243 Dept	Maintain water assets in terms of the maintenance budget spent	% of maintenance budget of water spent	Yes	Yes	-	-	-	-	95.0%	96.6%	90.00%	89.42%	90.00%	64.74%
2024/2025-244 Dept	Maintain sewerage assets in terms of the maintenance budget spent	% of maintenance budget of sewerage spent	Yes	Yes	-	-	-	-	95.0%	88.0%	90.00%	87.24%	95.00%	80.94%
2024/2025-61	Spend 95% of the budget allocated to purchase generators for WTW, WWTW and pumps by 30 June	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	95.00%	25.99%	95.00%	85.60%
	Spend 95% of the budget allocated to replace waterpipe in Jasmyn Street by 30 June 2024	Percentage (%) of the approved budget spent			-	-	-	-	-	-	95.00%	69.33%	-	-
2024/2025-62	Spend 95% of the budget allocated to upgrade weir diversion in Nkqubela by 30 June	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	95.00%	19.25%	95.00%	94.89%
	Spend 95% of the budget allocated for the replacement of Breede river pumps by 30 June 2024	Percentage (%) of the approved budget spent			-	-	-	-	-	-	95.00%	100.00%	-	-
	Spend 95% of the budget allocated to repair McGregor sewer plant by 30 June 2024	Percentage (%) of the approved budget spent			-	-	-	-	-	-	95.00%	98.49%	-	-
	Spend 95% of the budget allocated for the replacement of pumpstation in Montagu by 30 June 2024	Percentage (%) of the approved budget spent			-	-	-	-	-	-	95.00%	18.44%	-	-
	Spend 95% of the budget allocated for the installation of new telemetry system at Bonnievale sewerage pumpstation by 30 June 2024	Percentage (%) of the approved budget spent			-	-	-	-	-	-	95.00%	92.10%	-	-
2024/2025-22	Spend 95% of the budget allocated to install fencing and cameras at the pumpstations and reservoirs of the WTW and WWTW by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	100.17%
2024/2025-24	Spend 95% of the budget allocated for the construction of a new WTW in McGregor by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	16.00%
2024/2025-25	Spend 95% of the budget allocated for the replacement of the siphon pipeline from the Robertson canal to Gumgrove Dam by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	0.00%
2024/2025-26	Spend 95% of the budget allocated for the replacement of the water pipe (Bonnievale main supply to Lactalis, Bonnievale Winery and Uitsig) by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	12.85%
2024/2025-69	Spend 95% of the budget allocated for installation of Breede River pumpstation by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	26.94%
2024/2025-70	Spend 95% of the budget allocated for the replacement of bulk water meters by 30 June 2025	Percentage (%) of the approved budget spent	Yes	Yes	-	-	-	-	-	-	-	-	95.00%	44.78%
	Spend 100% of the amount budgeted for the upgrading of filters in Montagu WTW by 30 June 2021	% Of Budget spent			95.0%	26.6%	95.0%	95.0%	-	-	-	-	-	-
	Spend 100% of the amount budgeted for the refurbishment of old filters at McGregor WTW by 30 June	% Of Budget spent			95.0%	98.2%	95.0%	98.3%	-	-	-	-	-	-
	Spend 100% of the amount budgeted for the upgrade of the water network in Zolani by 30 June 2021	% Of Budget spent			95.0%	100.0%	98.0%	98.0%	-	-	-	-	-	-
WSDP Topic 11: Institutional Arrangements profile														
WSDP Topic 12: Social and Customer service requirements														
WSDP Topic 13: Needs development plan														

Legend:

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

The following water and sanitation related investigations were successfully completed during the last financial year.

- The Water Services Audit Report for the 2023/2024 financial year was finalised and approved by Council with the Annual Report. The IWA water balance models were also updated for each of the distribution systems (Up to the end of June 2024) as part of the Water Services Audit Process.
- Langeberg Municipality continues with the implementation of their Drinking Water Quality and Effluent Quality Sampling Programmes (Both Operational and Compliance Monitoring). Sample results are loaded on a monthly basis onto DWS's IRIS. All the WTWs and WWTWs are registered on the DWS IRIS website. River water quality samples are also taken upstream and downstream of the Montagu, Ashton and Robertson WWTWs.
- W₂RAPs were compiled for the various WWTWs and sewer drainage networks, iX engineers, August 2024.
- Water Safety Plans were compiled for the various WTWs and water reticulation networks, iX engineers, June 2024.
- WTW and WWTW Process Audits were compiled for all the treatment plants, Chris Swartz Water Utilisation Engineers, June 2024.
- The Municipality started with the updating of the Water and Sewer Master Plans, GLS Consulting.
- A Technical Report was compiled for the upgrade of the McGregor WTW, Niel Lyners & Associates, June 2025.
- A Technical Design Report was compiled for the upgrade of the Bonnievale WTW, Niel Lyners & Associates, April 2025.
- The WSDP was updated by AfriCoast and approved by Council on the 4th of December 2024.

DWS's 2025 Blue-, Green- and No Drop results are not yet available. The Municipality however previously received the following awards / acknowledgements with regard to the Blue-, Green- and No Drop assessments:

- Langeberg Municipality performed very poorly with regard to DWS's 2023 Blue Drop Assessment, with an overall Blue Drop Score of 44.67%. The Blue Drop Risk Ratings for all five systems were however in the low-risk category (<50%), which was good. The Blue Drop scores were supported by an average site assessment score of 70% for the Ashton WTW.
- Langeberg Municipality achieved a "Good" score of 87% for the 2023 No Drop Assessment and was acknowledged as one of the top performing WSAs in the country.
- Langeberg Municipality performed very poorly with regard to wastewater quality management, with an overall Green Drop Score of 27% for DWS's 2022 Green Drop assessment. The Green Drop Scores for the five the WWTWs and sewer drainage systems were all below 41%, with the Robertson WWTW failing to reach the minimum target of 31%, with a score of 12% (Critical).
- Langeberg Municipality also received their 2023 Green Drop Risk Ratings, as included in the 2023 Green Drop Progress Report. The overall Cumulative Risk Rating for Langeberg Municipality was 78.1% (High Risk) with the Wastewater Risk Ratings for all WWTW at High Risk (70 - <90%).

B.3. Status of Water Services Projects

Langeberg Municipality completed the following water and sewerage capital infrastructure projects during the 2024/2025 financial year.

Table B 3.1: Water Services Projects Status and Performance

Nr	Project Title and Description	Inclusion		Total Project Cost R'000	Project Progress (%)	Year 0 Performance - FY2024/25			Funding Source(s)	Project Category / Type	Planned Period		Project Status	Actual Completion Year
		WSDP	IDP			FY Budget R'000	Expended R'000	%			From FY	To FY		
1	Diggers	Yes	Yes	R4 619	100.0%	R4 619	R4 619	100%	CRR	Water	2024/2025	2024/2025	Completed	2024/2025
2	New WTW McGregor: CRR	Yes	Yes	R528	100.0%	R3 300	R528	16%	CRR	Water	2024/2025	2024/2025	Completed	2024/2025
3	Security measures fencing / cameras at pump stations, reservoirs and WTW	Yes	Yes	R6 253	44.0%	R2 500	R2 753	110%	CRR	Water	2024/2025	2027/2028	In Progress	-
4	Breede River Pump station	Yes	Yes	R13 502	9.7%	R3 066	R826	27%	MDRG, WIG, CRR	Water	2023/2024	2025/2026	In Progress	-
5	Replacement of bulk water meters	Yes	Yes	R2 907	10.6%	R686	R307	45%	MDRG, CRR	Water	2024/2025	2027/2028	In Progress	-
6	Generators for WTW and pumps	Yes	Yes	R4 734	100.0%	R4 409	R3 774	86%	CRR	Water	2023/2024	2024/2025	Completed	2024/2025
7	Replacement of the siphon pipeline from the Robertson canal to Gumgrove Dam	Yes	Yes	R1 000	0.0%	R4 000	R0	0%	CRR	Water	2024/2025	2025/2026	Not yet started	-
8	Water Pipe Replacement (Bonnievale main supply to Lactalis, Bonnievale Winery and Uitsig)	Yes	Yes	R1 979	49.5%	R7 613	R979	13%	CRR	Water	2024/2025	2025/2026	In Progress	-
9	Equipment	Yes	Yes	R876	88.6%	R0	R6	0%	CRR	Sewer	2020/2021	2025/2026	In Progress	-
10	Pump station - Montagu	Yes	Yes	R417	100.0%	R200	R200	100%	MDRG	Sewer	2023/2024	2024/2025	Completed	2024/2025
11	Security measures fencing/camaras at pump stations and WWTW	Yes	Yes	R1 754	100.0%	R2 000	R1 754	88%	CRR	Sewer	2024/2025	2024/2025	Completed	2024/2025
12	Construction and alterations to the sewer networks in Hospital Street, Robertson	Yes	Yes	R250	100.0%	R250	R250	100%	CRR	Sewer	2024/2025	2024/2025	Completed	2024/2025
13	Upg Robertson WWTW	Yes	Yes	R127 891	43.1%	R25 084	R25 084	100%	MIG	Sewer	2022/2023	2027/2028	In Progress	-
				R32 057	88.0%	R10 814	R10 792	100%	CRR					
14	Jetting Tanker	Yes	Yes	R155	100.0%	R3 655	R155	4%	CRR	Sewer	2024/2025	2024/2025	Completed	2024/2025
Total				R198 922		R72 196	R52 027	72%						

B.4. Past Financial Year Water Services Projects Impact Declaration

The impacts of the water and sewerage capital projects, which were implemented by Langeberg Municipality during the 2024/2025 financial year, were as follows:

Table B.4.1: Past Financial Year Project Impact Declaration						
Nr	Project Title and Description	Project Category	Settlements which benefitted	Nr Beneficiaries		Impact Declaration
				Households	Population	
1	Diggers	Other	Management Area	-	-	Machinery to ensure adequate operation and maintenance of water infrastructure
2	New WTW McGregor: CRR	WTW	McGregor	902	4308	Upgrade WTW in order to ensure adequate treatment capacity and water quality compliance.
3	Security measures fencing / cameras at pump stations, reservoirs and WTW	Security	Management Area	-	-	Improved security measures at water infrastructure, in order to prevent theft, vandalism and access to infrastructure.
4	Breede River Pump station	Water Pump Station	Montagu/Ashton	10644	40972	Increased assurance of supply. Ensure adequate raw water pump capacity.
5	Replacement of bulk water meters	WCWDM	Management Area	61	238	Monitoring of water usage. Ensure all water used is metered. Reduce NRW and water losses.
6	Generators for WTW and pumps	WTW/PS	Management Area	Unknown	Unknown	Ensure water supply and water quality compliance during load shedding periods.
7	Replacement of the siphon pipeline from the Robertson canal to Gumgrove Dam	Bulk Water Pipeline	Robertson	10373	38204	Increased assurance of supply. Upgrade bulk water pipeline capacity.
8	Water Pipe Replacement (Bonnievale main supply to Lactalis, Bonnievale Winery and Uitsig)	Water Reticulation	Bonnievale	3277	12533	Increased assurance of supply. Upgrade bulk water pipeline capacity. Reduced NRW and Water Losses through implementation of pipeline replacement programme.
9	Equipment	Other	Management Area	-	-	Equipment to ensure adequate operation and maintenance of sewerage infrastructure.
10	Pump station - Montagu	Sewer Pump Station	Montagu	Unknown	Unknown	Ensure adequate sewage pump capacity and to prevent any possible spillages.
11	Security measures fencing/cameras at pump stations and WWTW	Security	Management Area	-	-	Improved security measures at sewerage infrastructure, in order to prevent theft, vandalism and access to infrastructure.
12	Construction and alterations to the sewer networks in Hospital Street, Robertson	Sewer Drainage	Robertson	-	-	Upgrade sewer drainage network capacity in order to prevent any possible spillages.
13	Upg Robertson WWTW - MIG	WWTW	Robertson	10373	38204	Ensure adequate wastewater treatment capacity and final effluent quality compliance.
14	Jetting Tanker	Other	Management Area	-	-	Improved service delivery for the emptying of tanks
TOTAL				35630	134460	

C. WATER SERVICES AUDIT REPORT

C.1. Quantity of Water Services Provided (Water Balance)

Detail IWA Water Balances are available for each of the water distribution systems (towns) in Langeberg Municipality's Management Area. The graph below gives an overview of the annual raw water supply volume to all the towns. The impact of the severe drought in the Western Cape from 2016 onwards can be noted on the graph below.

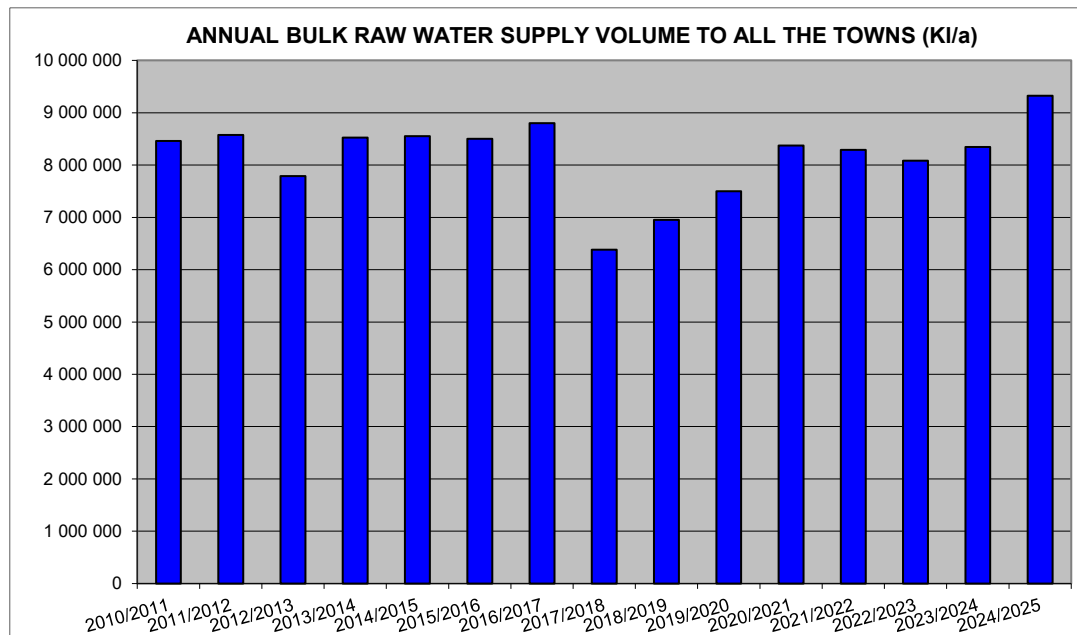


Figure C.1.1: Annual bulk raw water supply volumes to all the towns in Langeberg Municipality

The graph and table below give a summary of the annual bulk raw water supply volumes for the various towns within Langeberg Municipality's Management Area.

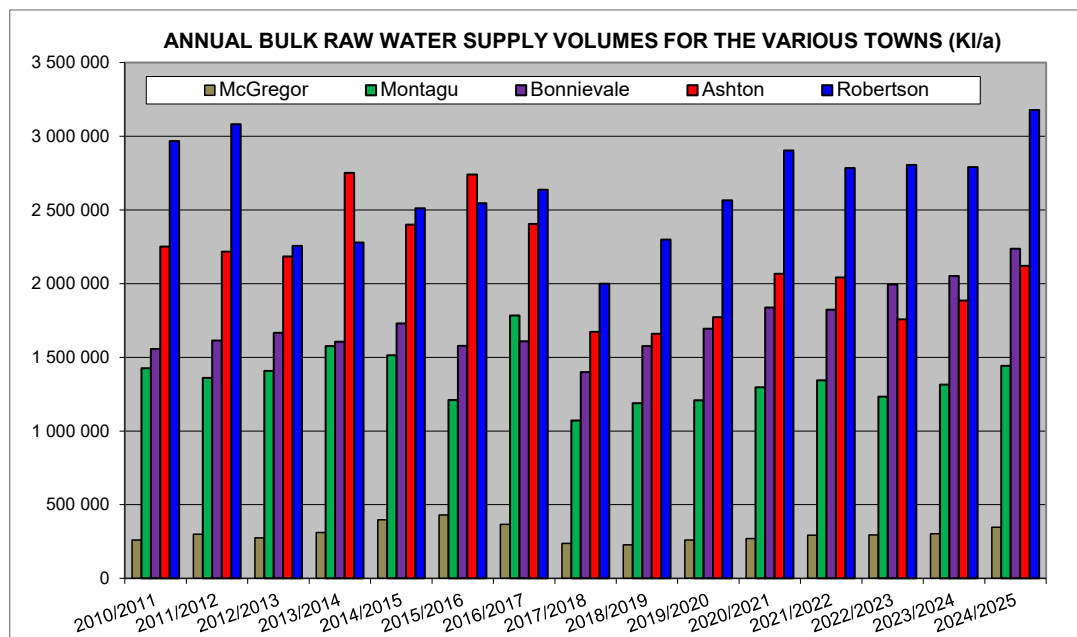


Figure C.1.2: Annual bulk raw water supply volumes for the towns in Langeberg Municipality's Management Area.

Table C.1.1: Annual bulk raw water supply volumes for the various towns							
Distribution System	Source	24/25	Record : Prior (Ml/a)				
			23/24	22/23	21/22	20/21	19/20
Robertson	Brandvlei Irrigation Scheme (Breede River), Dassieshoek and Koos Kok Dams and Hoops River Irrigation Scheme	3 179.500	2 790.800	2 806.000	2 784.300	2 903.500	2 565.500
McGregor	Houtbaais River	346.456	302.694	294.252	293.705	269.542	260.219
Bonnievale	Breede River and Zanddrift Irrigation Canal	2 237.759	2 052.906	1 995.438	1 823.177	1 838.635	1 693.604
Ashton	Breede River (Montagu Included), Cogmanskloof Irrigation Scheme (CBR) and Robertson Canal (Breede River)	2 120.232	1 884.799	1 757.385	2 043.073	2 066.537	1 772.048
Montagu	Cogmanskloof (From Ashton), Cogmanskloof Irrigation Scheme (CBR), Rietvlei and Kruis River	1 441.638	1 315.007	1 233.267	1 344.761	1 296.985	1 208.756
Total raw water supply to all towns		9 325.585	8 346.206	8 086.342	8 289.016	8 375.199	7 500.127

Note: *Raw water was estimated from system input volume + 4% treatment losses*

The graph below gives an overview of the annual system input volumes and the NRW for the various towns in Langeberg Municipality's Management Area.

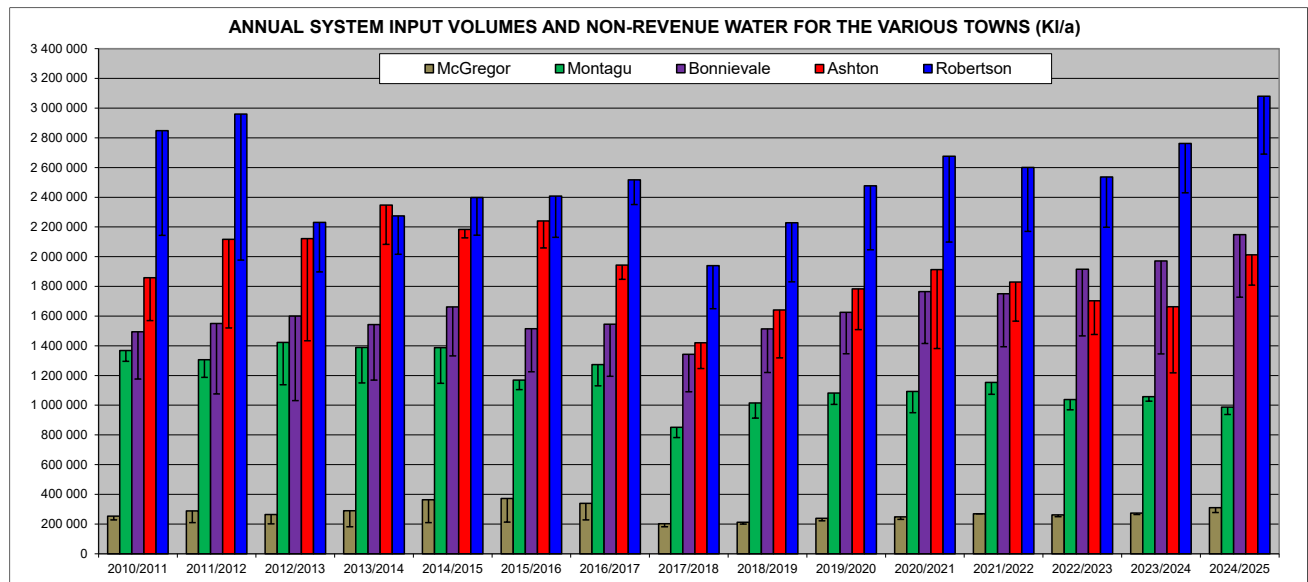


Figure C.1.3: Annual System Input Volumes and NRW for the various towns

Quantity of water used by each user sector:

The table below gives an overview of the quantity of water services provided / water balance for all the distribution systems in Langeberg Municipality's Management Area.

Table C.1.2: 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
			FY2024/25	FY2023/24	FY2022/23	FY2024/25	FY2023/24	FY2022/23
		RAW WATER						
7.2.1		Surface water purchased	0	0	0	0.00	0.00	0.00
7.1 / 7.2.2		Surface water abstracted	9 325 585	8 346 206	8 086 342	25.55	22.87	22.15
7.1 / 7.2.3		Ground water abstracted	0	0	0	0.00	0.00	0.00
7.2.14		Effluent recycled	0	0	0	0.00	0.00	0.00
7.2.4		less Raw water supplied to others	0	0	0	0.00	0.00	0.00
7.2.5		Sub-Total: Raw Water supplied	9 325 585	8 346 206	8 086 342	25.55	22.87	22.15
	10.2 (g) (i)	BULK WATER SUPPLY						
7.2.6		Volume of water treated	8 538 971	7 727 265	7 456 478	23.39	21.17	20.43
7.2.7	10.2 (a) (ii)	Purchased treated water	0	0	0	0.00	0.00	0.00
7.2.7A		Ground water not treated	0	0	0	0.00	0.00	0.00
7.2.6A		less Treated water supplied to others	0	0	0	0.00	0.00	0.00
		Sub-Total: System Input Volume	8 538 971	7 727 265	7 456 478	23.39	21.17	20.43
		WATER CONSUMPTION						
7.2.8.1		Billed Metered:	7 441 390	6 283 980	6 359 341	20.39	17.22	17.42
	10.2 (a) (i)	Domestic	4 121 380	3 480 354	3 522 092	11.29	9.54	9.65
	10.2 (a) (i)	Commercial	2 512 825	2 121 988	2 147 436	6.88	5.81	5.88
	10.2 (a) (i)	Industrial	0	0	0	0.00	0.00	0.00
	10.2 (a) (i)	Other	807 185	681 638	689 813	2.21	1.87	1.89
7.2.8.2		Billed Unmetered	0	0	0	0.00	0.00	0.00
	10.2 (a) (i)	Domestic	0	0	0	0.00	0.00	0.00
	10.2 (a) (i)	Commercial	0	0	0	0.00	0.00	0.00
	10.2 (a) (i)	Industrial	0	0	0	0.00	0.00	0.00
	10.2 (a) (i)	Other	0	0	0	0.00	0.00	0.00
7.2.8.3		Unbilled Metered	213 561	43 192	87 390	0.59	0.12	0.24
7.2.8.4		Unbilled Unmetered	17 078	15 455	14 913	0.05	0.04	0.04
	10.2 (g) (i)	Sub-Total: Authorized consumption	7 672 029	6 342 627	6 461 644	21.02	17.38	17.70
		WATER LOSSES						
7.3.1		Raw water bulk loss	786 614	618 941	629 864	2.16	1.70	1.73
7.2.3/7.2.4		Billing losses	230 639	58 647	102 303	0.63	0.16	0.28
7.2.5		Apparent losses	130 041	207 696	149 225	0.36	0.57	0.41
7.2.5.1		Illegal connections	17 339	27 693	19 897	0.05	0.08	0.05
7.2.5.2		Inaccurate meters	86 694	138 464	99 483	0.24	0.38	0.27
7.2.5.3		Data errors	26 008	41 539	29 845	0.07	0.11	0.08
7.2.6		Real losses	736 901	1 176 943	845 609	2.02	3.22	2.32
	10.2 (g) (ii)	Sub-Total: Water Losses	866 942	1 384 638	994 834	2.38	3.79	2.73
		WASTEWATER TREATMENT						
7.2.9	10.2 (a) (iii)	Total received at WWTW	4 066 472	3 648 026	3 595 049	11.14	9.99	9.85
7.2.11		Total discharged	3 456 501	3 100 822	3 055 792	9.47	8.50	8.37
7.2.13		Returned to environment	3 381 429	3 029 014	2 975 917	9.26	8.30	8.15
7.2.14		Recycled	75 072	71 808	79 875	0.21	0.20	0.22
	10.2 (a) (iv)	Quantity of water supplied not discharged to WWTWs	3 605 557	2 694 601	2 866 595	9.88	7.38	7.85

The graph below gives an overview of Langeberg Municipality's overall water usage per Sector for the various financial years.

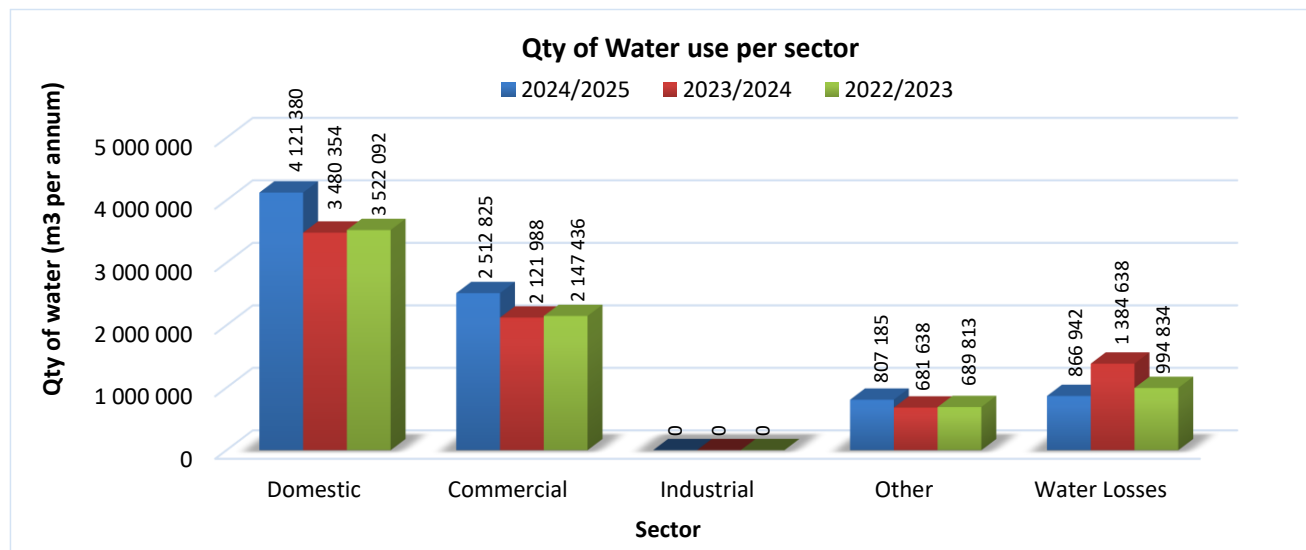


Figure C.1.4: Quantity of water services provided / water balance

The table below gives a summary of the total annual billed metered consumption for each of the water distribution systems.

Table C.1.3: Annual billed metered consumption for each of the water distribution systems (Ml/a)						
Distribution System	2024/2025	2023/2024	2022/2023	2021/2022	2020/2021	2019/2020
Robertson	2 690.741	2 429.890	2 197.650	2 170.304	2 099.090	2 046.735
McGregor	277.291	264.180	249.110	268.484	231.030	220.926
Bonnievale	1 726.817	1 344.610	1 466.710	1 393.641	1 415.840	1 346.318
Ashton	1 808.889 *	1 218.220	1 476.520	1 565.893	1 381.902	1 508.553
Montagu	937.651 *	1 027.080	969.350	1 073.575	949.046	1 005.443
Total	7 441.389	6 283.980	6 359.340	6 471.897	6 076.908	6 127.975

The table below gives a summary of the annual billed metered consumption for each of the water distribution systems for the 2024/2025 financial.

Table C.1.4: Billed metered consumption per sector for 2024/2025 for each of the water distribution systems (Ml/a)				
Distribution System	Residential	Business	Other	Total
Robertson	1 916.089	498.602	276.050	2 690.741
McGregor	250.004	24.483	2.804	277.291
Bonnievale	557.344	1 121.363	48.110	1 726.817
Ashton *	790.175	611.542	407.172	1 808.889
Montagu **	607.767	256.836	73.048	937.651
Total	4 121.379	2 512.826	807.184	7 441.389

Notes: * Ashton - Billed Metered Consumption from Finance reduced by 12%, because figures are not accurate.

** Billed Metered Consumption from Finance reduced by 28.5%, because figures are not accurate.

Quantity of effluent received at the WWTWs (Ml/a):

All the WWTWs in Langeberg Municipality's Management Area are supplied with bulk flow meters and the table below gives an overview of the annual volume of effluent received at the various WWTWs. The monthly flows and rainfall measured at the various WWTWs are included in Annexure A.

Table C.1.5: Quantity of effluent received at the various WWTWs						
WWTWs	24/25	Record : Prior (Ml/a)				
		23/24	22/23	21/22	20/21	19/20
Robertson	2 018.056 ¹⁾	1 966.830 ¹⁾	1 788.233	2 120.630	1 880.617	1 667.864
McGregor	88.320 ²⁾	84.480 ²⁾	93.970 ²⁾	98.570 ²⁾	83.865 ²⁾	65.466 ²⁾
Bonnievale	541.875 ³⁾	421.939 ³⁾	460.254 ³⁾	437.325 ³⁾	323.819	308.421
Ashton	633.111 ⁴⁾	426.377 ⁴⁾	516.782 ⁴⁾	548.062 ⁴⁾	447.340	426.506
Montagu	785.110	748.400	735.810	876.800	830.283	739.052
Total	4 066.472	3 648.026	3 595.049	4 081.387	3 565.924	3 207.309

Notes: 1) Flow meter not working. Estimated at 75% of Billed Metered Consumption data

2) The metered outflows at the McGregor WWTW

3) Flow meter not working. Estimated at 31% of Billed Metered Consumption data

4) Flow meter not working. Estimated at 35% of Billed Metered Consumption data

The graph below gives an overview of the annual rainfall measured at the various WWTWs for the last ten financial years.

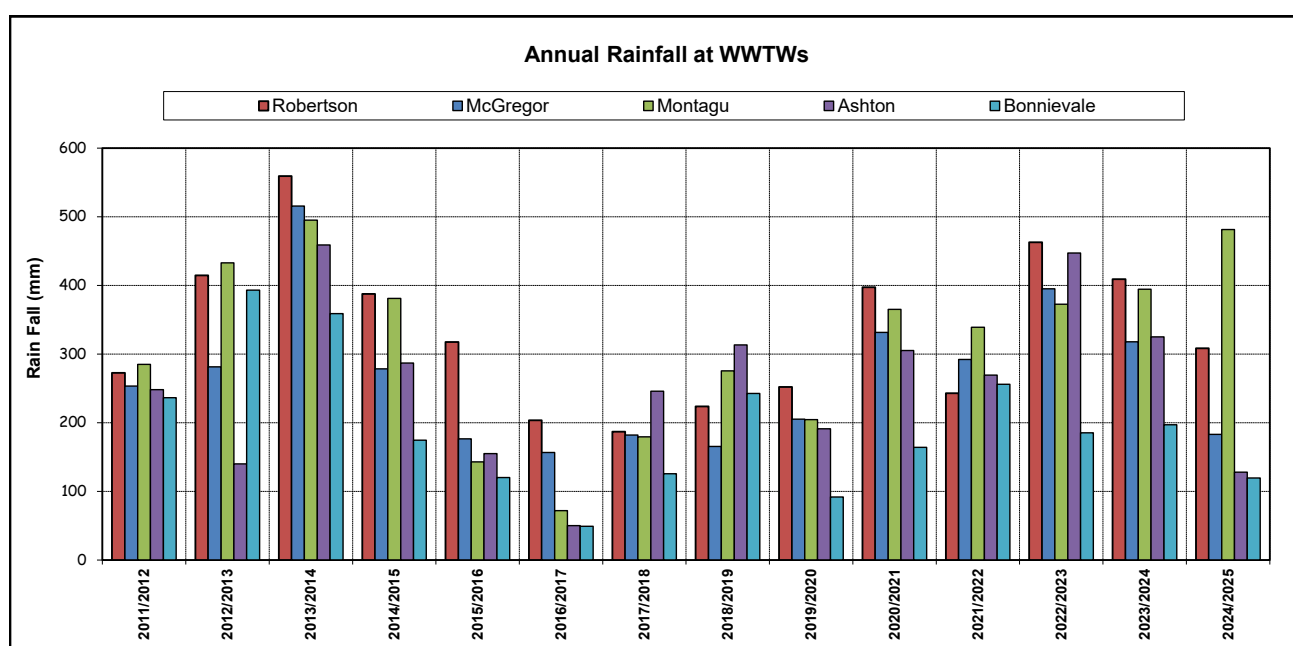


Figure C.1.5: Annual rainfall measured at the various WWTWs

Quantity of treated effluent returned to the water resource system:

The quantity of effluent treated by industrial consumers on their own premises and re-used by them is not known at this stage. All effluent discharged into the Municipal sewer systems are treated at the existing WWTWs and the estimated total returns to the water resource system and the treated effluent re-used for irrigation purposes are summarised in the table below.

Table C.1.6: Estimated total returns to the water resource system and treated effluent re-used for irrigation purposes						
WWTW	Type of WWTW	Resource Name (River, Dam, Other)	Current returns (24/25)		Current re-use (24/25)	
			Total Returns (Ml/a)	Portion (%) of total influent returned	Total Re-use (Ml/a)	Portion (%) of total influent reused
Robertson	Activated Sludge	Breede River	1 715.348	85%	-	0%
McGregor	Oxidation Dams	-	-	0%	75.072	85%
Bonnievale	Activated Sludge	Natural Stream	460.594	85%	-	0%
Ashton	Activated Sludge	Sarah River	538.144	85%	-	0%
Montagu	Activated Sludge	Kingna River	667.344	85%	-	0%

The current effluent re-use practices in Langeberg Municipality are indicated in the table below.

Table C.1.7: Current effluent re-used practices at the various WWTWs	
WWTWs	Current effluent re-used practices
Robertson	No re-use
McGregor	All final effluent is irrigated on vacant natural land
Bonnievale	No re-use
Ashton	No re-use
Montagu	No re-use

C.2. Water Services Delivery Profile

The current water and sanitation service levels provided by Langeberg Municipality to their consumers are included in the Municipality's Water and Sanitation Services By-law (2023). A Water and Sanitation Service Level Policy however needs to be drafted for Langeberg Municipality, which takes the following into account.

- National Sanitation Policy, 2016;
- Water and Sanitation Services on Privately Owned Land Policy (November 2023); and
- Revised Compulsory National Water and Sanitation Services Standards in terms of Section 9(1) of the Water Services Act, Act No. 108 of 1997. Government Gazette No.52814 of 6 June 2025.

C.2.1. User Connection Profile

The total number of user connections in each user sector, for the consumers provided with water services by Langeberg Municipality, is as follows:

Table C.2.1.1: User Connection Profile (Water Services)									
WSDP Ref. #	Category of users	Water Services							
		Year 0 FY2024/25		Year -1 FY2023/24		Year -2 FY2022/23		New Connections Year 0 FY2024/25	
		Nr	%	Nr	%	Nr	%	Nr	
	RESIDENTIAL (DOMESTIC)								
3.3	Metered: Uncontrolled	14 711	82%	14 691	82%	14 671	82%	20	
3.3	Metered: Controlled	0	0%	0	0%	0	0%	0	
	Unmetered (flat rate)	0	0%	0	0%	0	0%	0	
	Communal services	2 123	12%	2 123	12%	2 123	12%	0	
	Sub-Total: Residential	16 834	94%	16 814	94%	16 794	94%	20	
	EDUCATION								
3.3	Schools	52	0%	52	0%	52	0%	0	
	Tertiary educaton facilities	0	0%	0	0%	0	0%	0	
	Sub-Total: Education	52	0%	52	0%	52	0%	0	
	HEALTH								
3.3	Clinics	7	0%	7	0%	7	0%	0	
3.3	Hospitals	2	0%	2	0%	2	0%	0	
3.3	Health Centres	0	0%	0	0%	0	0%	0	
	Sub-Total: Health	9	0%	9	0%	9	0%	0	
	INSTITUTIONAL								
	Public Institutions	35	0%	35	0%	35	0%	0	
3.3	Magistrate Offices	3	0%	3	0%	3	0%	0	
3.3	Police Stations	6	0%	6	0%	6	0%	0	
3.3	Prisons	1	0%	1	0%	1	0%	0	
	etc	0	0%	0	0%	0	0%	0	
	Sub-Total: Institutional	45	0%	45	0%	45	0%	0	
	INDUSTRIAL								
3.3	Dry industries	25	0%	25	0%	25	0%	0	
3.3	Wet industries	18	0%	18	0%	18	0%	0	
	Sub-Total: Commercial	43	0%	43	0%	43	0%	0	
	COMMERCIAL								
3.3	Businesses	785	4%	779	4%	773	4%	6	
3.3	Office Buildings	15	0%	15	0%	15	0%	0	
	Sub-Total: Commercial	800	4%	794	4%	788	4%	6	
	MINING								
		0	0%	0	0%	0	0%	0	
	Sub-Total: Commercial	0	0%	0	0%	0	0%	0	
	OTHER								
	Agriculture: raw water	0	0%	0	0%	0	0%	0	
	Other consumers	145	1%	140	1%	135	1%	5	
	Sub-Total: Other	145	1%	140	1%	135	1%	5	
	TOTAL	17 928	100%	17 897	100%	17 866	100%	31	

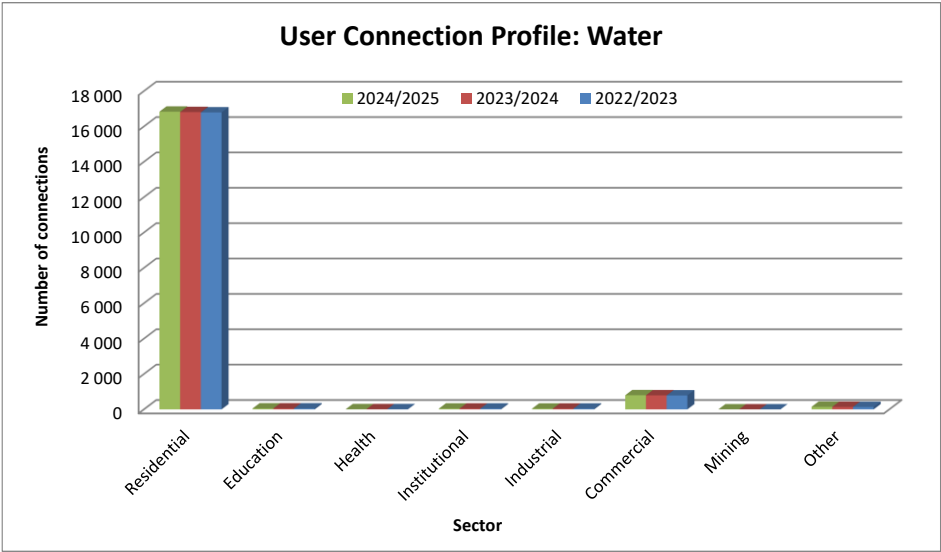


Figure C.2.1.1: User connection profile for water

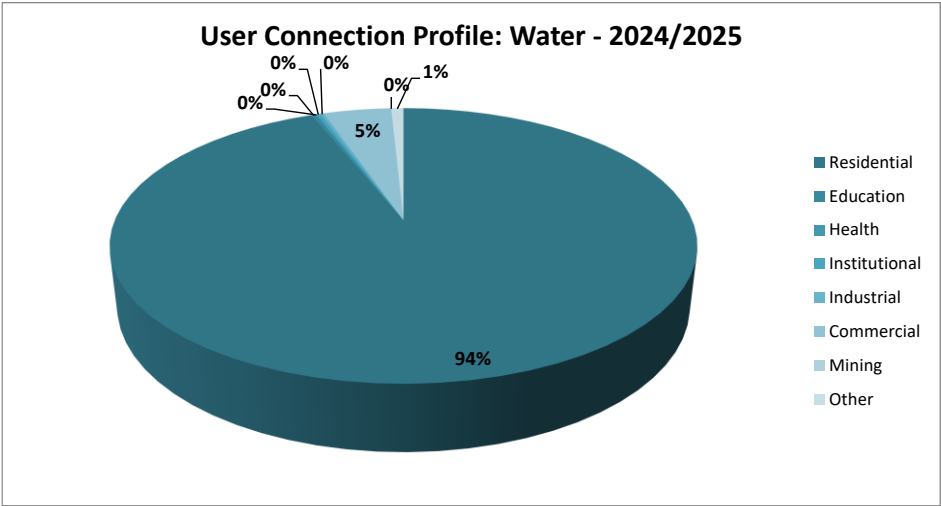


Figure C.2.1.2: User connection distribution for water for 2024/2025

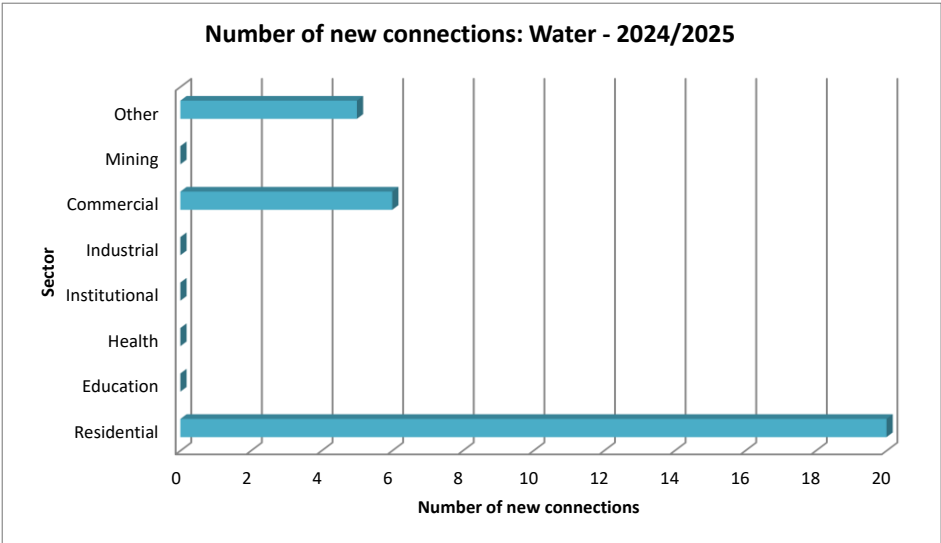


Figure C.2.1.3: Number of new water connections provided during 2024/2025

Table C.2.1.2: User Connection Profile (Wastewater Services)								
WSDP Ref. #	Category of users	Wastewater Services						
		Year 0 FY2024/25		Year -1 FY2023/24		Year -2 FY2022/23		New Connections Year 0 FY2024/25
		Nr	%	Nr	%	Nr	%	Nr
	RESIDENTIAL (DOMESTIC)							
3.3	Metered: Uncontrolled	14 711	91%	14 691	91%	14 671	91%	20
3.3	Metered: Controlled	0	0%	0	0%	0	0%	0
	Unmetered (flat rate)	0	0%	0	0%	0	0%	0
	Communal services	350	2%	350	2%	350	2%	0
	Sub-Total: Residential	15 061	93%	15 041	93%	15 021	93%	20
	EDUCATION							
3.3	Schools	52	0%	52	0%	52	0%	0
	Tertiary education facilities	0	0%	0	0%	0	0%	0
	Sub-Total: Education	52	0%	52	0%	52	0%	0
	HEALTH							
3.3	Clinics	7	0%	7	0%	7	0%	0
3.3	Hospitals	2	0%	2	0%	2	0%	0
3.3	Health Centres	0	0%	0	0%	0	0%	0
	Sub-Total: Health	9	0%	9	0%	9	0%	0
	INSTITUTIONAL							
	Public Institutions	35	0%	35	0%	35	0%	0
3.3	Magistrate Offices	3	0%	3	0%	3	0%	0
3.3	Police Stations	6	0%	6	0%	6	0%	0
3.3	Prisons	1	0%	1	0%	1	0%	0
	etc	0	0%	0	0%	0	0%	0
	Sub-Total: Institutional	45	0%	45	0%	45	0%	0
	INDUSTRIAL							
3.3	Dry industries	25	0%	25	0%	25	0%	0
3.3	Wet industries	18	0%	18	0%	18	0%	0
	Sub-Total: Commercial	43	0%	43	0%	43	0%	0
	COMMERCIAL							
3.3	Businesses	785	5%	779	5%	773	5%	6
3.3	Office Buildings	15	0%	15	0%	15	0%	0
	Sub-Total: Commercial	800	5%	794	5%	788	5%	6
	MINING							
		0	0%	0	0%	0	0%	0
	Sub-Total: Commercial	0	0%	0	0%	0	0%	0
	OTHER							
	Agriculture: raw water	0	0%	0	0%	0	0%	0
	Other consumers	145	1%	140	1%	135	1%	5
	Sub-Total: Other	145	1%	140	1%	135	1%	5
	TOTAL	16 155	100%	16 124	100%	16 093	100%	31

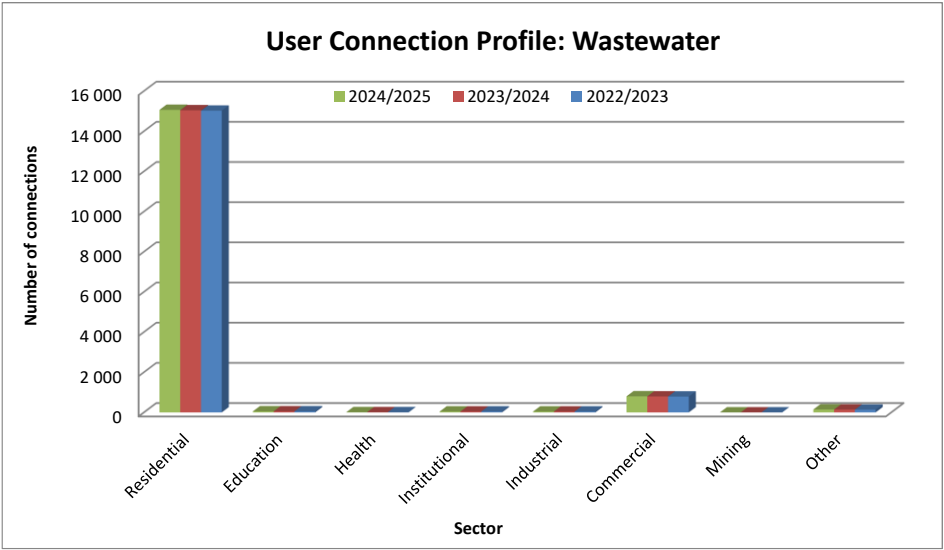


Figure C.2.1.4: User connection profile for wastewater

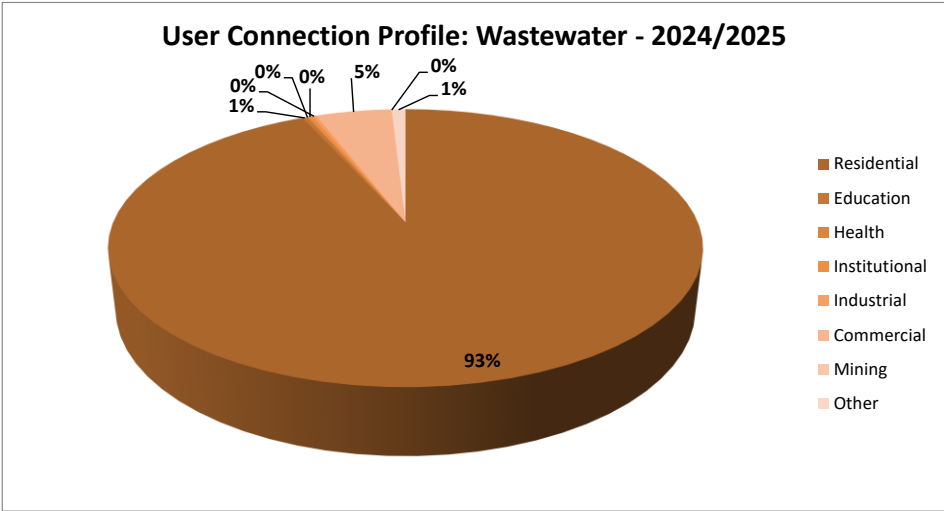


Figure C.2.1.5: User connection distribution for wastewater for 2024/2025

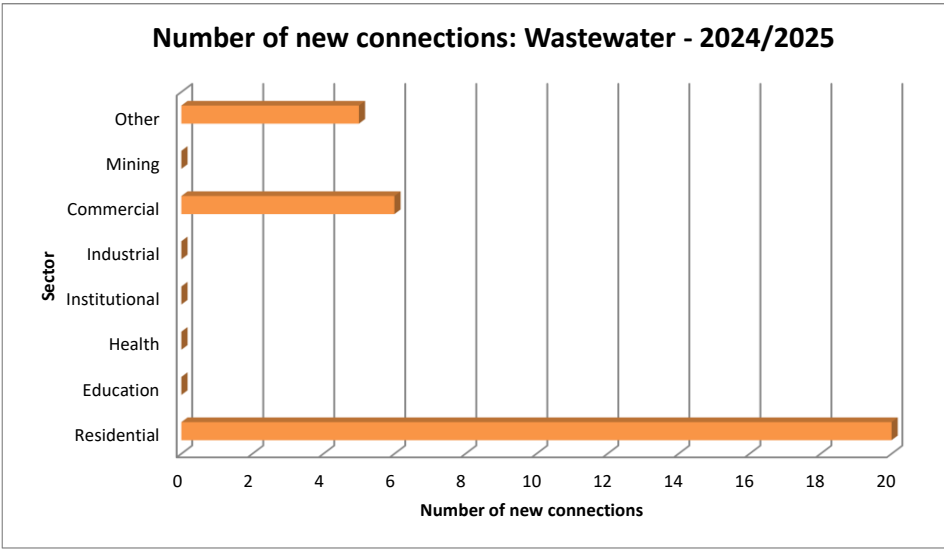


Figure C.2.1.6: Number of new wastewater connections provided during 2024/2025

The number of billed metered consumers for the 2024/2025 financial year for the various water usage categories are summarised in the table below.

Table C.2.1.3: Number of billed metered consumer units per sector for the 2024/2025 financial year for each of the water distribution systems				
Distribution System	Residential	Business	Other	Total
Robertson	6 006	353	92	6 451
McGregor	1 126	50	9	1 185
Bonnievale	1 658	96	47	1 801
Ashton	2 791	92	54	2 937
Montagu	3 130	252	49	3 431
Total	14 711	843	251	15 805

The table below summarise the tariff codes applicable to the various consumer types.

Table C.2.1.4: Tariff codes per consumer type for the 2024/2025 IWA Water Balances per system		
Consumer Type	Tariff Codes	
Robertson		
Residential	001001-RBN-RES=22MM 001003-SILVERSTRAND HEV 001006-COCOS PL HEV 001007-RBN-RES FLATS =50MM 001008-ROODEVILLAS HEV 001009-WST GT32-LT=40MM 001010-RBN RES=25MM	001011-RBN RES =50MM 001015-ROSEGATE HEV 50 001019-RBN DEERNIS 1 PENS 003019-ASH DEERNIS 1 PENS 004019-BON DEERNIS 1 PENS 005001-MTQ RES=22MM 008020-UITBREIDING 9 GATED VILLAGE HEV
Business	001020-RBN-BUS=22MM 001022-RBN-BUS=25MM 001023-RBN-BUS=32MM 001024-RBN- BUS=40MM	001025-RBN-BUS BULK=50MM 001026-RBN-BUS BULK=80MM 001027-RBN-BUS BULK=100MM 001028-RBN-BUS BULKGT100MM
Other	001060-RBN-SPORT LT=20MM 001061-RBN-SPORT 25MM 001062-RBN-SPORT 32MM 001064-RBN-SPORT 50MM 001065-RBN-SPORT 80MM 001066-RBN-SPORT 100MM	007020-DPT:LT=20MM ALGEMEEN 007022-DPT:GT20-LT=25MM ALG 007060-DPT:SPORT LT=20MM 007061-DPT:SPORT 25MM 007064-DPT:SPORT 50MM 007065-DPT:SPORT 80MM
McGregor		
Residential	002001-MCG RES=22MM 002010-MCG RES=25MM 002016-MCG-SS COUNTRY COTTAGES HEV	002019-MCG DEERNIS 1 PENS 003019-ASH DEERNIS 1 PENS
Business	002020-MCG-BUS=22MM 002023-MCG-BUS=32MM 002025-MCG-BUS BULK=50MM	002060-MCG-SPORT LT=20MM 002066-MCG-SPORT 100MM
Other	007020-DPT:LT=20MM ALGEMEEN 007060-DPT:SPORT LT=20MM	007064-DPT:SPORT 50MM
Bonnievale		
Residential	003019-ASH DEERNIS 1 PENS 004001-BON RES=22MM 004002-BON-SS BONNIEPARK HEV	004010-BON RES=25MM 004011-BON RES =50MM 004019-BON DEERNIS 1 PENS
Business	004020-BON-BUS=22MM 004022-BON-BUS=25MM 004023-BON-BUS=32MM 004024-BON- BUS=40MM	004025-BON-BUS BULK=50MM 004026-BON-BUS BULK=80MM 004027-BON-BUS BULK=100MM 004028-BON-BUS BULKGT100MM
Other	004060-BON-SPORT LT=20MM 004061-BON-SPORT 25MM	004065-BON-SPORT 80MM 007020-DPT:LT=20MM ALGEMEEN

Table C.2.1.4: Tariff codes per consumer type for the 2024/2025 IWA Water Balances per system		
Consumer Type	Tariff Codes	
	004062-BON-SPORT 32MM 004064-BON-SPORT 50MM	007022-DPT:GT20-LT=25MM ALG 007060-DPT:SPORT LT=20MM
Ashton		
Residential	001001-RBN-RES=22MM 003001-ASH RES=22MM 003007-ASH-RES FLATS=50MM 003010-ASH RES=25MM	003011-ASH RES =50MM 003019-ASH DEERNIS 1 PENS 005019-MTQ DEERNIS 1 PENS
Business	003020-ASH-BUS=22MM 003021-ASH-BUS =20MM 003022-ASH-BUS=25MM 003024-ASH- BUS=40MM	003025-ASH-BUS BULK=50MM 003026-ASH-BUS BULK=80MM 003027-ASH-BUS BULK=100MM 003028-ASH-BUS BULKGT100MM
Other	003062-ASH-SPORT 32MM 003064-ASH-SPORT 50MM 007020-DPT:LT=20MM ALGEMEEN 007022-DPT:GT20-LT=25MM ALG	007061-DPT:SPORT 25MM 007064-DPT:SPORT 50MM 007065-DPT:SPORT 80MM
Montagu		
Residential	003019-ASH DEERNIS 1 PENS 005001-MTQ RES=22MM 005002-MTQ RES=22MM DROUGHT EXEMPT 005004-MTQ-SS AVALON PLACE HEV 005005-MTQ-SS KINGNA-381289ME 005007-MTQ-RES FLATS=50MM	005010-MTQ RES=25MM 005011-MTQ RES =50MM 005013-MTQ-SS KINGNA-C/TJK123 005014-MTQ-SS KINGNA-828896ME 005019-MTQ DEERNIS 1 PENS
Business	005020-MTQ-BUS=22MM 005021-MTQ-BUS=25MM DROUGHT EXEMPT 005022-MTQ-BUS=25MM 005023-MTQ-BUS BULK=50MM DROUGHT EXEMPT 005024-MTQ- BUS=40MM	005025-MTQ-BUS BULK=50MM 005026-MTQ-BUS BULK=80MM 005027-MTQ-BUS BULK=100MM 005031-MTQ-BUS MCCARTHY TRUST
Other	005060-MTQ-SPORT LT=20MM 005061-MTQ-SPORT 25MM 005063-MTQ-SPORT 40MM 005065-MTQ-SPORT 80MM 007020-DPT:LT=20MM ALGEMEEN	007022-DPT:GT20-LT=25MM ALG 007060-DPT:SPORT LT=20MM 007061-DPT:SPORT 25MM 007064-DPT:SPORT 50MM

All the households on formal erven in the urban areas of Langeberg Municipality's Management Area are provided with water connections inside the erven. Informal areas are supplied with shared services as an intermediary measure. Langeberg Municipality is committed to ensure that private landowners provide at least basic water and sanitation services to those households in the rural areas with existing services below RDP standard.

Langeberg Municipality's challenges with regard to the provision of basic water and sanitation services are as follows:

- To provide basic water and sanitation services in the informal areas to new citizens moving into the informal areas and to ensure that health and hygiene awareness and education is part of the process of providing basic services.
- To identify suitable land for the relocation of the people from informal areas, with existing communal services, to formal houses with a higher level of water and sanitation service (Services inside the house).
- To identify adequate funding for the rehabilitation, maintenance, replacement and upgrading of the existing bulk and reticulation infrastructure in order to support the sustainability of the water and sanitation services.
- To monitor the provision of basic water and sanitation on privately owned land.

C.2.2. Residential Water Services Delivery Access Profile

The Revised Compulsory National Water and Sanitation Standards, as published in the Government Gazette No.52814 of 6 June 2025, make provision for the following standards for basic water supply services.

Table C.2.2.1: Basic water supply services

- A WSA is responsible for the provision of basic water supply services to all consumers or potential consumers in its jurisdictional area inclusive of people residing on privately owned land as guided by the Water and Sanitation Services Policy on Privately Owned Land (2023).
- The minimum standard for basic water services must consist of:
 - Within two years of promulgation of these regulations an access or delivery point which must be at least at the end boundary of the yard (user connection point) of the existing settlement.
 - A minimum quantity of drinking water of 6 kl/household per month -
 - at a minimum flow rate of not less than 10 litres per minute.
 - with an effectiveness such that water is made available for at least 358 days per year.
 - not interrupted for longer than 48 consecutive hours.
 - at no cost to indigent households, upon depletion of the initial 6 kl per month allocation, qualifying indigent household will be subject to usage restrictions and will be responsible for payment based on the adopted tariff policy for any additional water consumed.
 - Water provided which complies with the requirements of SANS 241.
- Maintenance of the infrastructure up to the user connection is the responsibility of the Water Services Institution and the maintenance of the infrastructure within the boundary of the property is the responsibility of the owner.
- All new users applications for water connections must be completed within 21 calendar days by a WSA in areas where the infrastructure allows or exist.
- All user connections for water supply must be metered or measured, controlled and tarified by the relevant Water Services Institution.
- A Water Services Institution must replace stolen meters and or repair or replace damaged meters within 30 days of it being reported or detected.
- Water meters must be managed and replaced within their asset lifespan.
- The Water Services Institution must ensure the provision of appropriate education in respect of safe, effective and efficient water use, hygiene and groundwater use management.
- Within two years after promulgation of these Regulations, WSA must submit plans to the Department, using the WSDP platform as part of their WSDP on how they are going to upgrade all consumers in formal settlements to basic services (yard connection; user connection point).

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.

The table below gives an overview of the water services delivery access profile of Langeberg Municipality.

Table C.2.2.2: Residential Water Services Delivery Access Profile: Water							
Census Category	Description	Year 0		Year -1		Year 2	
		FY2024/25		FY2023/24		FY2022/23	
		Nr	%	Nr	%	Nr	%
	WATER (ABOVE MIN LEVEL)						
Piped (tap) water inside dwelling/institution	House connections	21 257	63%	21 526	69%	20 958	68%
Piped (tap) water inside yard	Yard connections	9 879	29%	7 296	23%	7 194	23%
Piped (tap) water on community stand: distance less than 200m from dwelling/institution	Standpipe connection < 200 m	556	2%	846	3%	966	3%
	Sub-Total: Minimum Service Level and Above	31 692	94%	29 668	95%	29 118	94%
	WATER (BELOW MIN LEVEL)						
Piped (tap) water on community stand: distance between 200m and 500m from dwelling/institution	Standpipe connection: > 200 m < 500 m	1 850	6%	1 721	5%	1 709	6%
Piped (tap) water on community stand: distance between 500m and 1000m (1km) from dwelling /institution	Standpipe connection: > 500 m < 1 000 m	6	0%	0	0%	0	0%
Piped (tap) water on community stand: distance greater than 1000m (1km) from dwelling/institution	Standpipe connection: > 1 000 m	6	0%	0	0%	0	0%
No access to piped (tap) water	No services	76	0%	0	0%	0	0%
	Sub-Total: Below Minimum Service Level	1 938	6%	1 721	5%	1 709	6%
	Total number of households	33 630	100%	31 389	100%	30 827	100%

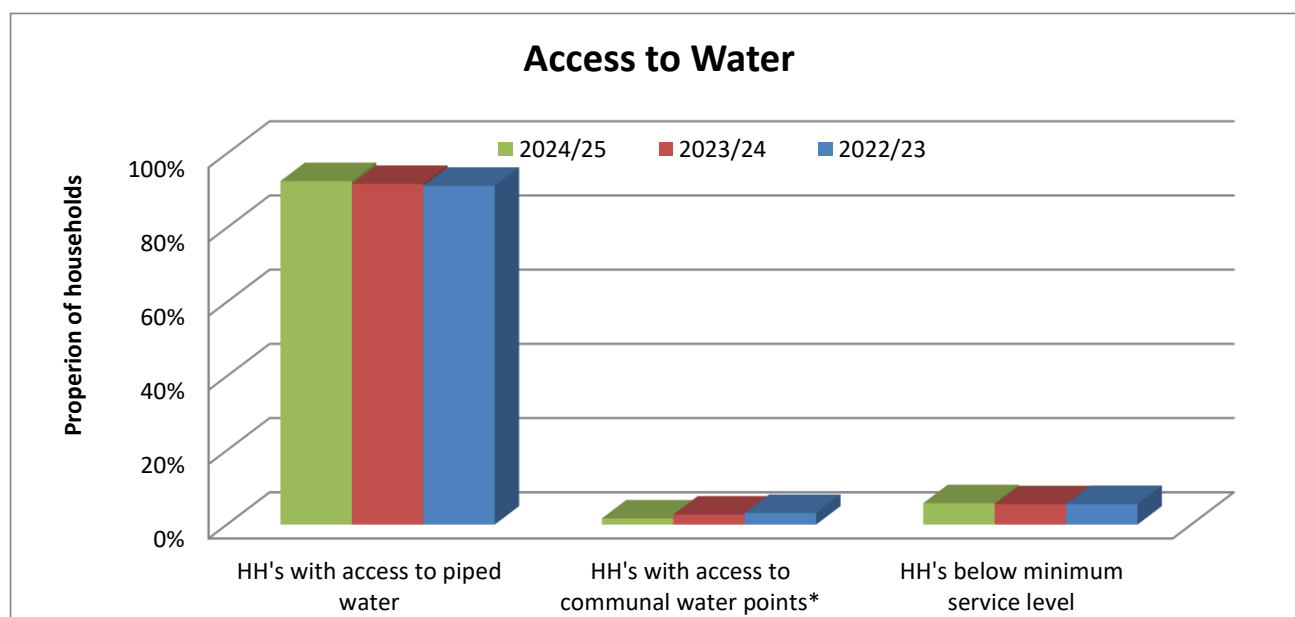


Figure C.2.2.1: Household water access profile

The existing residential water service levels in Langeberg Municipality's Management Area are estimated as follows.

Table C.2.2.3: Residential water service levels (Consumers)							
Service Level	Robertson	Ashton	Montagu	Bonnievale	McGregor	Farms	Total
No Water Services	0	0	0	0	0	76 ²⁾	76
Below RDP: Infrastructure Upgrade	0	0	0	0	0	0	0
Below RDP: Infrastructure Extension	0	0	0	0	0	174 ³⁾	174
Below RDP: Infrastructure Refurbishment	0	0	0	0	0	0	0
Below RDP: O&M Needs	0	0	0	0	0	0	0
Below RDP: Water Resource Needs	0	0	0	0	0	0	0
Below RDP: Infrastructure and O&M Needs	0	0	0	0	0	0	0
Below RDP: Infrastructure, O&M and Water Resource Needs	0	0	0	0	0	0	0
Total Basic Need (RDP)	0	0	0	0	0	250	250
Below Housing Interim ⁴⁾	859	539	290	0	0	0	1 688
Adequate Housing Permanent ⁵⁾	275	100	25	0	35	0	435
Total Housing Need	1 134	639	315	0	35	0	2 123
Standpipes	0	0	0	0	0	121	121
Yard Connections ⁶⁾	3 233	913	2 856	1 619	0	1 258	9 879
House Connections ¹⁾	6 006	2 791	3 130	1 658	1 126	6 546	21 257
Total Adequate	9 239	3 704	5 986	3 277	1 126	7 925	31 257
Total Residential Households	10 373	4 343	6 301	3 277	1 161	8 175	33 630

Notes: 1) Number of billed metered residential consumer units for the urban areas for June 2025, as received from the Financial Department (Tariffs: Residential, Indigent and Pre-paid)

2) Census 2011: Number of households with no access to piped (tap) water 76

3) Census 2011: Number of households with communal services (200m – 500m) 162, (500m – 1000m) 6 and (>1000m) 6.

4) Below Housing Interim in the above table is the number of households in informal areas without basic water services, as confirmed by the Municipality (June 2025).

5) Adequate Housing Permanent in the above table is the number of households in informal areas with communal water services. The number of households with communal services in informal areas for June 2025 was confirmed by the Municipality.

6) Estimated number of backyard dwellers (Projected number of households – residential billed metered CUs – households in informal areas).

7) There are no households on formal erven in the urban areas with water services below basic standard. All formal erven are supplied with water connections inside the erven.

The Revised Compulsory National Water and Sanitation Standards, as published in the Government Gazette No.52814 of 6 June 2025, make provision for the following standards for basic sanitation supply services.

Table C.2.2.4: Basic sanitation supply services

- A WSA is responsible for the provision of basic sanitation services to all consumers or potential consumers in its jurisdictional area inclusive of people residing on privately owned land as guided by the Water and Sanitation Services Policy on Privately Owned Land (2023).
- The standard for basic sanitation services must include the provision of a toilet with functional hand washing facility in the yard, which is safe, reliable for 24 hours a day, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease-carrying pests, providing for an effective and acceptable sanitation technology.
- A WSA must ensure that human excreta and wastewater is safely contained at all times, throughout the sanitation service chain.
- Faecal sludge management must be an integral part of the sanitation service.
- Each household must have uninterrupted access to an adequate, appropriate sanitation facility.
- Hygiene and user education must be an integral part of sanitation service. Households should be supported with knowledge and any other relevant resources to take responsibility for the correct and consistent use of the sanitation service, including but not limited to the toilet facility.
- In providing basic sanitation service, a WSA must consider the following requirements:
 - The need for everyone, including persons with a disability to have a reasonable quality of life.
 - Water efficient sanitation solutions.
 - Groundwater pollution risks in accordance with the Protocol to manage the potential groundwater contamination from on-site sanitation (2003).
 - Water use authorisation in terms of the NWA.
 - Surface water pollution risks and the management thereof.
 - Population density.
 - Economies of scale.
- Subject to the above, a WSA must consider-
 - In high and medium density formal settlements:
 - waterborne sewerage provided that the wastewater treatment system and works have adequate capacity and is performing to acceptable standards under the National Water Act (read with regulation 10); or
 - alternative water efficient sanitation solutions instead of waterborne sewerage systems in areas of dense formal and medium settlement where there is resource scarcity and or inadequate capacity or functionality in the sewer system and or the wastewater treatment works.
 - In low density or sparsely populated settlements: water efficient sanitation solutions.
- Water efficient sanitation solutions, as described above, must be shown to include off-grid, on-site sanitation options such as Non-sewered Sanitation Systems (NSSS) as well as Decentralised Wastewater Treatment Systems (DWWTS).
- A WSA may not unreasonably decline a property development to have a water efficient sanitation solution that is not connected to the central system where development will manage the system as a Water Services Intermediary and where the water uses of the system is authorised under the National Water Act.
- Whenever a Water Services Institution is providing new innovative non-sewered sanitation systems, such must be guided by the requirements of SANS 30500 for Non-Sewered Sanitation Systems or the "SANS 24521:2020 Guidelines for the management of basic on-site domestic wastewater services", whichever is applicable.
- WSA must monitor and regulate safe emptying, transportation, treatment and disposal of faecal sludge to faecal sludge treatment facilities or any other authorised facility.
- Faecal sludge treatment plants must be guided by ISO 31800 for prefabricated units or similar standards for non-prefabricated faecal sludge treatment units.
- WSA must have community participation procedures of informing communities about the emptying processes, routes and health risks.
- Within two years after promulgation of these Regulations, the WSA must submit plans as part of their WSDP, using the WSDP platform, on measures to eradicate unimproved pit toilets and open defaecation in human settlements.

The table below gives an overview of the sanitation services delivery access profile of Langeberg Municipality.

Table C.2.2.5: Residential Water Services Delivery Access Profile: Sanitation

Census Category	Description	Year 0		Year -1		Year 2	
		FY2024/25		FY2023/24		FY2022/23	
		Nr	%	Nr	%	Nr	%
	SANITATION (ABOVE MIN LEVEL)						
Flush toilet (connected to sewerage system)	Waterborne	22 480	67%	20 201	67%	19 916	64%
	Waterborne: Low Flush	0	0%	0	0%	0	0%
Flush toilet (with septic tank)	Septic tanks / Conservancy	7 986	24%	7 102	24%	7 557	24%
Chemical toilet	Non-waterborne (min. service level)	48	0%	48	0%	48	0%
Pit toilet with ventilation (VIP)		41	0%	41	0%	41	0%
Other / Communal Services	Waterborne (min. service level, communal)	155	0%	0	0%	770	2%
	Sub-Total: Minimum Service Level and Above	30 710	91%	27 392	91%	28 332	91%
	SANITATION (BELOW MIN LEVEL)						
Pit toilet without ventilation	Pit toilet	79	0%	0	0%	0	0%
Bucket toilet	Bucket toilet	194	1%	194	1%	194	1%
Other toilet provision (below min. service level)	Other	212	1%	261	1%	299	1%
No toilet provisions	No services	2 435	7%	2 175	7%	2 175	7%
	Sub-Total: Below Minimum Service Level	2 920	9%	2 630	9%	2 668	9%
	Total number of households	33 630	100%	30 022	100%	31 000	100%

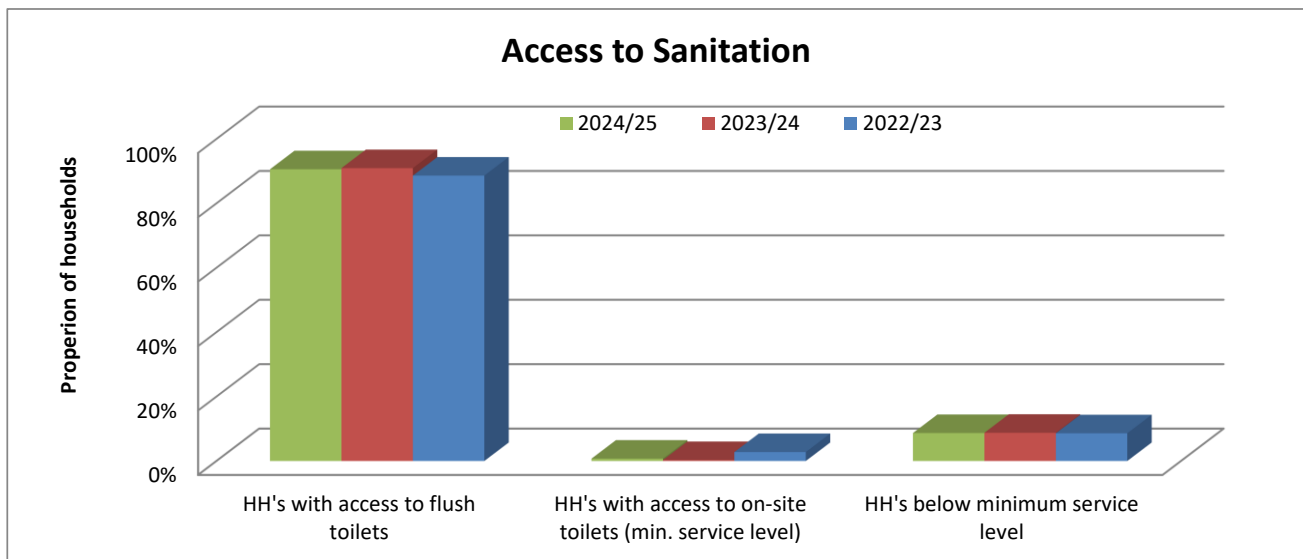


Figure C.2.2.2: Household sanitation access profile

The existing residential sanitation service levels in Langeberg Municipality's Management Area are estimated as follows.

Table C.2.2.6: Residential sanitation service levels (Consumers)							
Service Level	Robertson	Ashton	Montagu	Bonnievale	McGregor	Farms	Total
No Sanitation Services	0	0	0	0	0	467 ²⁾	467
Below RDP: Infrastructure Upgrade	0	0	0	0	0	533 ³⁾	533
Below RDP: Infrastructure Extension	0	0	0	0	0	0	0
Below RDP: Infrastructure Refurbishment	0	0	0	0	0	0	0
Below RDP: O&M Needs	0	0	0	0	0	0	0
Below RDP: Water Resource Needs	0	0	0	0	0	0	0
Below RDP: Infrastructure and O&M Needs	0	0	0	0	0	0	0
Below RDP: Infrastructure, O&M and Water Resource Needs	0	0	0	0	0	0	0
Total Basic Need (RDP)	0	0	0	0	0	1 000	1 000
Inadequate Housing Interim ⁴⁾	1 134	639	195	0	0	0	1 968
Inadequate Housing Permanent ⁵⁾	0	0	120	0	35	0	155
Total Housing Need	1 134	639	315	0	35	0	2 123
No Waterborne (VIP)	0	0	0	0	0	41	41
Waterborne Low Flush	0	0	0	0	0	0	0
Septic Tanks / Conservancy Tanks	49	64	20	188	531	7 134	7 986
Waterborne	9 190	3 640	5 966	3 089	595	0	22 480
Total Adequate ¹⁾	9 239	3 704	5 986	3 277	1 126	7 175	30 507
Total Residential Households	10 373	4 343	6 301	3 277	1 161	8 175	33 630

Notes: 1) Include Backyard dwellers

2) Census 2011: Number of households with no toilet facility in rural areas 467.

3) Census 2011: Number of households in rural areas with existing buckets 194, chemical toilets 48, pit toilets without ventilation 79 and "other" 212.

4) Inadequate Housing Interim in the above table is the number of households in informal areas without basic sanitation services, as confirmed by the Municipality (June 2025).

5) Inadequate Housing Permanent in the above table is the number of households in informal areas with communal ablution facilities. The number of households with communal services in informal areas was confirmed by the Municipality.

6) There are no households on formal erven in the urban areas with sanitation services below basic standard.

7) Number of conservancy tanks: Sum of tanks emptied for 2024-2025 / 6 (Every second month emptied) x 80% (Estimated number of tanks emptied for residential consumers).

Number of households provided with water through communal water services:

The Revised Compulsory National Water and Sanitation Standards, as published in the Government Gazette No.52814 of 6 June 2025, also make provision for the following standards for interim water and sanitation supply services.

Table C.2.2.7: Interim water and sanitation supply services
Interim water supply services
- A WSA must take reasonable measures to provide interim water supply services in informal settlements. - Upon realisation of a new informal settlement, the WSA must provide interim water supply services within 90 days of becoming aware thereof. - A WSA is responsible for the capital, operation, maintenance and refurbishment actions and cost pertaining to interim water services. - Where an informal settlement is formalised, a WSA must ensure access to basic water services. - The minimum standard for interim water services must consist of: ➢ An access or delivery point which must be a communal standpipe, within a reasonable walking distance of no more than 200m from the furthest household. ➢ A minimum quantity of drinking water of 6 kl/household per month - • at a minimum flow rate of not less than 10 litres per minute.

Table C.2.2.7: Interim water and sanitation supply services**Interim water supply services**

- with an effectiveness such that water is made available for at least 358 days per year.
- not interrupted for longer than 48 consecutive hours.
- Water provided which complies with the requirements of SANS 241.
- All areas supplied with interim water supply services must have zonal meters and measured by the relevant Water Services Institution.
- Whenever interim water supply services are provided through water tankers, it must not exceed 12 consecutive months and WSAs need to keep accurate records as specified in Regulation 4(3)(c).

Interim sanitation supply services

- A WSA is responsible for the capital, operation, maintenance and refurbishment actions and cost pertaining to interim sanitation services including the management of faecal sludge in the entire sanitation service chain.
- A WSA must take reasonable measures to provide appropriate interim sanitation services in informal settlements and during a disaster.
- Upon realisation of a new informal settlement, the WSA must provide interim sanitation services within 90 days.
- Interim sanitation services must provide at least the following:
 - Communal and shared facilities in accordance with the following:
 - Communal toilet: Toilet seat – 1 seat per 10 households; Urinal units – 1 unit per 20 households; Hand washing – 1 basin per 10 households.
 - Shared toilets: Toilet seat – 1 unit per 4 households; Urinal units – 1 unit per 10 households; Hand washing – 1 basin per 4 households.
 - The WSA must put measures in place to keep the toilets hygienic.
 - The toilets must be separated according to gender to meet the needs for women, girls and persons with disability.
 - All portable and mobile toilets must be emptied at least twice a week to appropriate licensed facilities for treatment.
- If the sanitation facility is communal, the maximum walking distance should be 100m, wherever possible.
- Parents and care givers must be provided with information by the Water Services Institution regarding safe disposal of infant's faeces, laundering practices and use of nappies, potties or scoops for effectively managing safe disposal.
- A WSA through its Environmental Health Practitioners are responsible for promoting hygiene and user education for ensuring an environmentally safe approach to sanitation and for monitoring the impact of sanitation processes on the environment.

The total number of households in informal areas is currently 2 123. The table below gives a summary of the communal water and sanitation services levels in the informal areas in Langeberg Municipality's Urban Management Areas.

Table C.2.2.8: Sanitation and Water communal service levels in the informal areas

Informal Settlement	No. of HH	Sanitation Services				Water Services			
		No. of Toilets	HH / Toilet	Backlog		No. of Taps	HH / Tap	Backlog	
				HH	Toilets			HH	Taps
Robertson Nkqubela (Enkanini & Kanana)	957	0	0	957	96	5	191.4	832	34
Robertson North	177	0	0	177	18	6	29.5	27	2
McGregor	35	28	1.3	-	-	18	1.9	-	-
Ashton: Cogmanskloof	168	0	0	168	17	2 *	84.0	118	5
Ashton: Zolani	471	0	0	471	48	2 *	235.5	421	17
Montagu: Mandela Square	315	12	26.3	195	20	1	315.0	290	12
Total	2 123	40	53.1	1 968	199	34	62.4	1 688	70

Notes: * Water Tanks

No Services, Ratios above Targets, Ratios meeting Targets

Targets: Langeberg Municipality works towards a ratio of at least one (1) tap per twenty-five (25) households (< 200m) and one (1) communal toilet per ten (10) households (< 100m) for their shared services.

All schools and medical facilities in Langeberg Municipality's urban areas are supplied with a higher level of water and sanitation services. The existing water and sanitation service levels for all the schools in Langeberg Municipality's Management Area is summarised in the table below.

Table C.2.2.9: Service Levels at Schools							
Associated Services Facility	Number of Facilities	Water			Sanitation		
		Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services
Schools	52	52	0	0	52	0	0

Source: Number of schools from the 2024 Socio-Economic Profile of Langeberg Municipality, Western Cape Government.

The existing water and sanitation service levels for all the Medical Facilities in Langeberg Municipality's Management Area is summarised in the table below.

Table C.2.2.10: Service Levels at Medical Facilities							
Associated Services Facility	Number of Facilities	Water			Sanitation		
		Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services
Hospitals	2	2	0	0	2	0	0
Health Centres	0	0	0	0	0	0	0
Clinics	7	7	0	0	7	0	0
Mobile Clinics	6	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

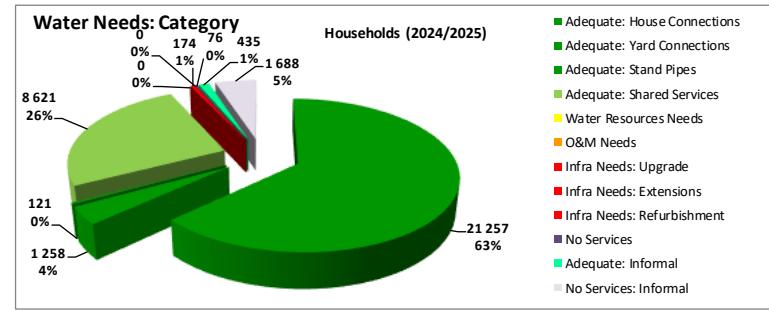
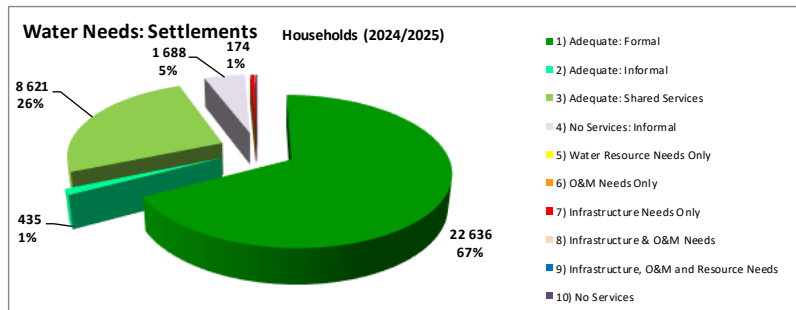
Source: Number of Medical Facilities from the 2024 Socio-Economic Profile of Langeberg Municipality, Western Cape Government.

C.2.3. Residential Water Services Delivery Adequacy Profile

The existing residential water service levels in Langeberg Municipality's Management Area are estimated as follows:

Table C.2.3.1: Residential Water Services Delivery Adequacy Profile (Water)

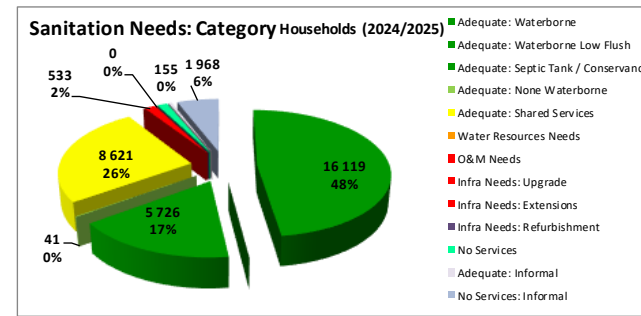
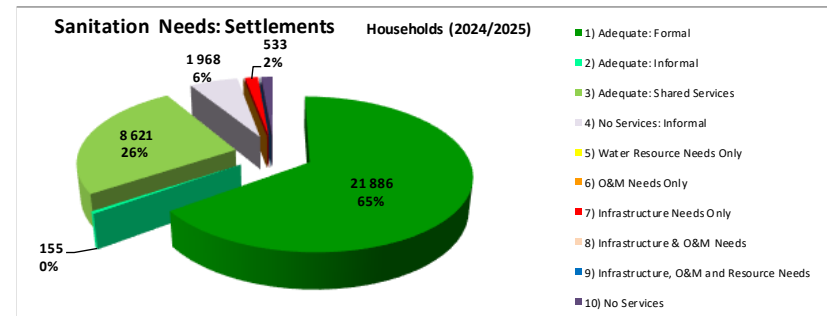
Water Categorisation	Number of settlements	FORMAL																		INFORMAL					
		Adequate								Water Resource needs		O & M Needs		Infrastructure Needs						No services		Adequate		No services	
		House Connections		Yard Connections		Stand Pipes		Shared Services						Upgrades		Extensions		Refurbishment							
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%		
1	13	21 257	100%	1 258	100%	121	100%																		
2	4																					435	100%		
3	13							8 621	100%																
4	4																							1 688	100%
5	0																								
6	0																								
7	2														174	100%									
8	0																								
9	0																								
10	2																	76	100%						
Total Household Interventions required		21 257		1 258		121		8 621		0		0		0		174		0		76		435		1 688	



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

The existing residential sanitation service levels in Langeberg Municipality's Management Area are estimated as follows:

Table C.2.3.2: 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				Adequate		No services	
		HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%		
1	13	16 119	100%	-		5 726	100%	41	100%																		
2	4																						155	100%			
3	13									8 621	100%																
4	4																							1 968	100%		
5	0																										
6	0																										
7	2														533	100%											
8	0																										
9	0																										
10	2																			467	100%						
Total Household Interventions required		16 119		0		5 726		41		8 621		0		0		533		0		0		467		155		1 968	



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

C.3. Cost Recovery and Free Basic Services

C.3.1. Tariffs

Langeberg Municipality's 2024/2025 water and sewerage tariffs are based on the following:

- The Municipality started in 2015/2016 with the implementation of a six block step rising residential water tariff structure with the first 6 kl/month being free for indigent households.
- Water tariffs for commercial and "other" consumers consist of a fix cost per kl consumption with no free water. No step block rising tariff structure is implemented for these consumers.
- The Municipality started in 2016/2017 with new Phase 1, 2 and 3 Drought Condition Water Saving Tariffs for drought periods.
- There is an availability fee for sewage, as well as a fixed sewage charge per month for all consumers, based on the size of their water connections.

The water tariff structure for Langeberg Municipality for the 2024/2025 financial year and the previous four financial years are summarised in the table below (Subject to 15% VAT).

Table C.3.1.1: Water tariffs for Langeberg Municipality for the last five financial years.								
Consumer / Description	Tariff Code	Category		24/25	23/24	22/23	21/22	20/21
Residential (Only properties used exclusively for residential property)	1001	Basic: <= 22mm		R116-60	R110-00	R103-00	R97-17	R91-67
		0 – 6kl		R3-07	R2-90	R2-76	R2-67	R2-58
		7 – 15kl		R7-65	R7-22	R6-76	R6-46	R6-18
		16 – 30kl		R8-57	R8-08	R7-45	R7-03	R6-66
		31 – 40kl		R9-62	R9-07	R8-23	R7-69	R7-20
		41 - 60kl		R13-17	R12-42	R11-10	R10-26	R9-51
		>60kl		R14-70	R13-87	R12-21	R11-16	R10-24
	1010	Basic: > 22 <= 25mm		R183-59	R173-20	R162-17	R152-99	R144-33
		0 – 6kl		R3-07	R2-90	R2-76	R2-67	R2-58
		7 – 15kl		R7-65	R7-22	R6-76	R6-46	R6-18
		16 – 30kl		R8-57	R8-08	R7-45	R7-03	R6-66
		31 – 40kl		R9-62	R9-07	R8-23	R7-69	R7-20
		41 - 60kl		R13-17	R12-42	R11-10	R10-26	R9-51
		>60kl		R14-70	R13-87	R12-21	R11-16	R10-24
	1011	Basic: > 40 <= 50mm		R754-21	R711-52	R666-21	R628-50	R592-93
		0 – 6kl		R3-07	R2-90	R2-76	R2-67	R2-58
		7 – 15kl		R7-65	R7-22	R6-76	R6-46	R6-18
		16 – 30kl		R8-57	R8-08	R7-45	R7-03	R6-66
		31 – 40kl		R9-62	R9-07	R8-23	R7-69	R7-20
		41 - 60kl		R13-17	R12-42	R11-10	R10-26	R9-51
		>60kl		R14-70	R13-87	R12-21	R11-16	R10-24
	1019	Indigent Tariff (Income <= R4400 / month, 100% Subsidised)	Basic	R116-60	R110-00	R103-00	R99-12	R93-51
			0 – 6kl	Free				
			>6kl	R8-79	R8-29	R7-77	R7-34	R6-94
	1704	Informal Housing (100% Subsidised)	Basic	R116-60	R110-00	R103-00	R99-12	R93-51
			0 – 6kl	Free				
			> 6kl	R8-79	R8-29	R7-77	R7-34	R6-94
Group Residential Consumers: One Title	1009	Wst > 32 <= 40mm	Basic Charge	R288-52	R272-19	R254-86	R240-43	R226-82
			0 – 12kl	R3-07	R2-90	R2-76	R2-67	R2-58
			12 – 30kl	R7-65	R7-22	R6-76	R6-46	R6-18
			30 – 60kl	R8-57	R8-08	R7-45	R7-03	R6-66
			60 – 80kl	R9-62	R9-07	R8-23	R7-69	R7-20
			80 – 120kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 120kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1008	Roodevillas	Basic Charge	R3 104-41	R2 928-69	R2 742-22	R2 587-00	R2 440-

Table C.3.1.1: Water tariffs for Langeberg Municipality for the last five financial years.									
Consumer / Description	Tariff Code	Category		24/25	23/24	22/23	21/22	20/21	
		HEV: 100mm						57	
			0 – 276kl	R3-07	R2-90	R2-76	R2-67	R2-58	
			276 - 690kl	R7-65	R7-22	R6-76	R6-46	R6-18	
			690 – 1380kl	R8-57	R8-08	R7-45	R7-03	R6-66	
			1380 – 1840kl	R9-62	R9-07	R8-23	R7-69	R7-20	
			1840 – 2760kl	R13-17	R12-42	R11-10	R10-26	R9-51	
			> 2760kl	R14-70	R13-87	R12-21	R11-16	R10-24	
				Basic Charge	R497-20	R469-06	R439-19	R414-33	R390-88
				0 – 54kl	R3-07	R2-90	R2-76	R2-67	R2-58
				54 - 135kl	R7-65	R7-22	R6-76	R6-46	R6-18
				135 – 270kl	R8-57	R8-08	R7-45	R7-03	R6-66
				270 – 360kl	R9-62	R9-07	R8-23	R7-69	R7-20
			360 – 540kl	R13-17	R12-42	R11-10	R10-26	R9-51	
				> 540kl	R14-70	R13-87	R12-21	R11-16	R10-24
				Basic Charge	R3 104-41	R2 928-69	R2 742-22	R2 587-00	R2 440-57
				0 – 162 kl	R3-07	R2-90	R2-76	R2-67	R2-58
				162 – 405kl	R7-65	R7-22	R6-76	R6-46	R6-18
				405 – 810kl	R8-57	R8-08	R7-45	R7-03	R6-66
			810 – 1080kl	R9-62	R9-07	R8-23	R7-69	R7-20	
				1080 – 1620kl	R13-17	R12-42	R11-10	R10-26	R9-51
				> 1620kl	R14-70	R13-87	R12-21	R11-16	R10-24
				Basic Charge	R767-26	R723-83	R677-74	R639-38	R603-19
				0 – 234 kl	R3-07	R2-90	R2-76	R2-67	R2-58
				234 – 585kl	R7-65	R7-22	R6-76	R6-46	R6-18
			585 – 1170kl	R8-57	R8-08	R7-45	R7-03	R6-66	
				1170 – 1560kl	R9-62	R9-07	R8-23	R7-69	R7-20
				1560 – 2340kl	R13-17	R12-42	R11-10	R10-26	R9-51
				> 2340kl	R14-70	R13-87	R12-21	R11-16	R10-24
				Basic: Number of units	R109-18	R103-00	R103-00	-	-
				0 – 6kl	R2-92	R2-76	R2-76	-	-
			7 – 15kl	R7-17	R6-76	R6-76	-	-	
				16 – 30kl	R7-89	R7-45	R7-45	-	-
				31 – 40kl	R8-73	R8-23	R8-23	-	-
				41 - 60kl	R11-77	R11-10	R11-10	-	-
				>60kl	R12-94	R12-21	R12-21	-	-
				Basic Charge	R767-26	R723-83	R677-74		
			0 – 138kl	R3-07	R2-90	R2-76	-	-	
				138 – 345kl	R7-65	R7-22	R6-76	-	-
				345 – 690kl	R8-57	R8-08	R7-45	-	-
				690 – 920kl	R9-62	R9-07	R8-23	-	-
				920 - 1380kl	R13-17	R12-42	R11-10	-	-
				>1380kl	R14-70	R13-87	R12-21	-	-
			Basic Charge	767-26	R723-83	R677-74	-	-	
				0 – 48kl	R3-07	R2-90	R2-76	-	-
				48 – 120kl	R7-65	R7-22	R6-76	-	-
				120 – 240kl	R8-57	R8-08	R7-45	-	-
				240 – 320kl	R9-62	R9-07	R8-23	-	-
				320 – 480kl	R13-17	R12-42	R11-10	-	-
			>480kl	R14-70	R13-87	R12-21	-	-	
				Basic Charge * Number of units	R3 104-41	R2 928-69	R2 742-22	-	-
				0 – 6kl	R3-07	R2-90	R2-76	-	-
				7 – 15kl	R7-65	R7-22	R6-76	-	-
				16 – 30kl	R8-57	R8-08	R7-45	-	-
				31 – 40kl	R9-62	R9-07	R8-23	-	-
			41 - 60kl	R13-17	R12-42	R11-10	-	-	
				>60kl	R14-70	R13-87	R12-21	-	-

Table C.3.1.1: Water tariffs for Langeberg Municipality for the last five financial years.								
Consumer / Description	Tariff Code	Category		24/25	23/24	22/23	21/22	20/21
	1003	Silverstrand HEV: 150mm	Basic Charge	R7 167-92	R6 762-19	R6 331-63	R5 973-24	R5 635-13
			0 – 1110kl	R3-07	R2-90	R2-76	R2-67	R2-58
			1110 – 2775kl	R7-65	R7-22	R6-76	R6-46	R6-18
			2775 – 5550kl	R8-57	R8-08	R7-45	R7-03	R6-66
			5550 – 7400kl	R9-62	R9-07	R8-23	R7-69	R7-20
			7400 – 11100kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 11100kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1004	Avalon Place HEV: 50mm	Basic Charge	R767-26	R723-83	R677-74	R639-38	R603-19
			0 – 180 kl	R3-07	R2-90	R2-76	R2-67	R2-58
			180 - 450kl	R7-65	R7-22	R6-76	R6-46	R6-18
			450 – 900kl	R8-57	R8-08	R7-45	R7-03	R6-66
			900 – 1200kl	R9-62	R9-07	R8-23	R7-69	R7-20
			1200 – 1800kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 1800kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1005	Kingna- 381289ME	Basic Charge	R497-20	R469-06	R439-20	R414-34	R390-88
			0 – 12kl	R3-07	R2-90	R2-76	R2-67	R2-58
			12 – 30kl	R7-65	R7-22	R6-76	R6-46	R6-18
			30 – 60kl	R8-57	R8-08	R7-45	R7-03	R6-66
			60 – 80kl	R9-62	R9-07	R8-23	R7-69	R7-20
			80 – 120kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 120kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1013	Kingna- C/TJK123	Basic Charge	R497-20	R469-06	R439-20	R414-34	R390-88
			0 – 54kl	R3-07	R2-90	R2-76	R2-67	R2-58
			54 – 135kl	R7-65	R7-22	R6-76	R6-46	R6-18
			135 – 270kl	R8-57	R8-08	R7-45	R7-03	R6-66
			270 – 360kl	R9-62	R9-07	R8-23	R7-69	R7-20
			360 – 540kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 540kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1014	Kingna- 828896ME	Basic Charge	R497-20	R469-06	R439-20	R414-34	R390-88
			0 – 66kl	R3-07	R2-90	R2-76	R2-67	R2-58
			66 – 165kl	R7-65	R7-22	R6-76	R6-46	R6-18
			165 – 300kl	R8-57	R8-08	R7-45	R7-03	R6-66
			300 – 410kl	R9-62	R9-07	R8-23	R7-69	R7-20
			410 – 630	R13-17	R12-42	R11-10	R10-26	R9-51
			> 630kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1015	Rosegate HEV 509: 50mm	Basic Charge	R767-26	R723-83	R677-74	R639-38	R603-19
			0 - 18kl	-	-	R2-76	R2-67	R2-58
			18 – 45kl	-	-	R6-76	R6-46	R6-18
			45 – 90kl	-	-	R7-45	R7-03	R6-66
			90 – 120kl	-	-	R8-23	R7-69	R7-20
			120 – 180kl	-	-	R11-10	R10-26	R9-51
			> 180kl	-	-	R12-21	R11-16	R10-24
			0 – 48kl	R3-07	R2-90	-	-	-
			48 – 120kl	R7-65	R7-22	-	-	-
			120 – 240kl	R8-57	R8-08	-	-	-
			240 – 320kl	R9-62	R9-07	-	-	-
			320 – 480kl	R13-17	R12-42	-	-	-
			> 480kl	R14-70	R13-87	-	-	-
	1016	MCG Country Cottages HEV: 50mm	Basic Charge	R767-26	R723-83	R677-74	R639-38	R603-19
			0 - 42kl	R3-07	R2-90	R2-76	R2-67	R2-58
			42 – 105kl	R7-65	R7-22	R6-76	R6-46	R6-18
			105 – 210kl	R8-57	R8-08	R7-45	R7-03	R6-66
			210 – 280kl	R9-62	R9-07	R8-23	R7-69	R7-20
			280 – 420kl	R13-17	R12-42	R11-10	R10-26	R9-51
			> 420kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1031	ROY McCarthy:	Basic Charge	R1 963-60	R1 852-46	R1 734-51	R1 636-33	R1 543-71

Table C.3.1.1: Water tariffs for Langeberg Municipality for the last five financial years.								
Consumer / Description	Tariff Code	Category		24/25	23/24	22/23	21/22	20/21
		50-80mm	0 – 66kl	R3-07	R2-90	R2-76	R2-67	R2-58
			67 – 165kl	R7-65	R7-22	R6-76	R6-46	R6-18
			166 – 300kl	R8-57	R8-08	R7-45	R7-03	R6-66
			301 – 410kl	R9-62	R9-07	R8-23	R7-69	R7-20
			411 – 630kl	R13-17	R12-42	R11-10	R10-26	R9-51
			>630kl	R14-70	R13-87	R12-21	R11-16	R10-24
	1730	Water Bulk Contribution Levy for HOA per unit – 10% discount		R118-61	R111-90	R104-77	R98-84	R93-25
Prepaid Meters	Residential	0 - 6 kl	R2-94	R2-77	R2-68	R2-75	R2-59	
		7 – 15kl	R7-29	R6-88	R6-57	R6-50	R6-28	
		16 – 30kl	R8-08	R7-60	R7-18	R7-10	R6-79	
		31 – 40kl	R8-91	R8-40	R7-86	R7-77	R7-35	
		41 – 60kl	R12-03	R11-35	R10-51	R10-38	R9-72	
		> 60kl	R13-11	R12-37	R11-33	R11-19	R10-37	
	All other users	Consumption per kl	R11-54	R10-89	R10-19	R9-58	R9-07	
Public Facilities	1021	Basic		R88-33	R83-33	R78-02	R73-61	R69-44
	Consumption per kl			R7-12	R6-72	R6-29	R5-58	R5-34
Municipal Departments (General / Sport)	7701	Basic		R118-61	R111-90	R104-77	R98-84	R93-25
	7020	<= 22mm		R118-61	R111-89	R104-77	R99-12	R93-51
	7022	> 22 <= 25mm		R186-78	R176-21	R164-99	R156-08	R147-25
	Consumption > 6 kl per kl			R8-04	R7-58	R7-10	R6-78	R6-49
	7060	Sport	20mm	R106-29	R100-27	R93-89	R88-57	R83-56
	7061	Sport	21 <= 25mm	R169-58	R159-98	R149-79	R141-31	R133-31
	7064	Sport	26 <= 50mm	R690-94	R651-83	R610-33	R575-78	R543-19
	7065	Sport	50 <= 80mm	R1 771-63	R1 671-35	R1 564-94	R1 476-35	R1 392-79
	Consumption per kl			R7-32	R6-91	R6-47	R6-19	R5-92
All other consumers not specified elsewhere	1020	Basic <= 22mm		R118-61	R111-90	R104-77	R98-84	R93-25
	1022	> 22 <= 25mm		R186-78	R176-21	R164-99	R155-65	R146-84
	1023	> 25 <= 32mm		R320-55	R302-41	R283-15	R267-12	R252-00
	1024	> 32 <= 40mm		R497-20	R469-06	R439-20	R414-34	R390-88
	1025	> 40 <= 50mm		R767-26	R723-83	R677-74	R639-38	R603-19
	1026	> 50 <= 80mm		R1 963-60	R1 852-45	R1 734-51	R1 636-33	R1 543-71
	1027	> 80 <= 100mm		R3 104-41	R2 928-69	R2 742-22	R2 587-00	R2 440-57
	1028	> 100mm		R7 167-92	R6 762-19	R6 331-63	R5 973-24	R5 635-13
	Consumption per kl			R8-65	R8-16	R7-64	R7-18	R6-87
	1030	Unmetered water >0		R114-18	R107-72	R100-86	R98-84	R93-25
Unmetered Water	1701	Monthly basic charge per consumer point		R118-61	R111-90	R104-77	R98-84	R93-25
	1703	Indigent – Unmetered water (Basic Charge)		R118-61	R111-90	R104-77	R98-84	R93-25
	1704	Informal Settlements – Unmetered water		R118-61	R111-90	R104-77	R98-84	R93-25
Availability Fees	1700	Erven >= 200m²: Excluding properties zoned for agricultural purposes, roads, play parks and parking areas belonging to homeowners associations.		R114-77	R108-28	R101-38	R98-84	R93-25
Drought Conditions Water Saving Tariffs	Phase 1	> 30kl		+50%	+50%	+50%	+50%	+50%
	Phase 2	> 15kl		+100%	+100%	+100%	+100%	+100%
	Phase 3	> 6kl		+200%	+200%	+200%	+200%	+200%
Water Restriction tariff for non-residential consumers	Phase 1	> 30kl		+10%	+10%	+10%	+10%	+10%
	Phase 2	> 15kl		+20%	+20%	+20%	+20%	+20%
	Phase 3	> 6kl		+30%	+30%	+30%	+30%	+30%
Penalty for non-adherence to water restriction				R3 709-17	R3 499-21	R3 276-42	R3 090-96	R2 916-00
Sport grounds and schools	1060	<= 22mm		R106-29	R100-27	R93-89	R88-57	R83-56
	1061	25mm		R169-58	R159-98	R149-79	R141-31	R133-31

Table C.3.1.1: Water tariffs for Langeberg Municipality for the last five financial years.							
Consumer / Description	Tariff Code	Category	24/25	23/24	22/23	21/22	20/21
	1062	32mm	R288-52	R272-19	R254-86	R240-43	R226-82
	1063	40mm	R447-97	R422-61	R395-71	R373-31	R352-18
	1064	50mm	R690-94	R651-83	R610-33	R575-78	R543-19
	1065	80mm	R1 771-63	R1 671-35	R1 564-94	R1 476-35	R1 392-79
	1066	100mm	R2 801-72	R2 643-14	R2 474-85	R2 334-76	R2 202-60
	1067	> 100mm	R6 448-79	R6 083-76	R5 696-41	R5 373-97	R5 069-78
	Consumption per kl		R8-08	R7-62	R7-13	R6-64	R6-36

A Drought Management Policy is in place for Langeberg Municipality, which specified measures to be taken when water resources (dams / rivers) drops to certain levels. The table below gives an overview of the different restriction stages and the specified measures for each stage.

Table C.3.1.2: Water restriction stages and the measures to be taken for each stage	
Restriction Stage	Measures to be taken
Robertson	
Stage 1 (Two third water provision from Brandvlei dam and Dassieshoek dam above 60%)	- Suspension of leiwater - Watering of gardens may only be undertaken for two hours per day between 18H00 – 20H00, two days per week. - A fine in terms of Section 75 A of the Systems Act, being a 50% penalty on tariffs for monthly consumption in excess of 30 kiloliter per month per household connection, excluding indigent households. - At sport fields only watering of cricket pitches, golf course greens and bowling greens is permitted for two hours per day, twice per week, unless own source of water is used. - No housing of roofs and driveways and no washing of vehicles with a garden hose will be permitted. - That the restriction referred to in the fourth bulled above not be applicable to any bona fide and full time commercial enterprises whose business it is to wash cars. - An effective awareness and education campaign processes must be conducted. The public awareness campaign must be intensified. A specific service provider with the relevant experience, must be identified to fulfill this function. - That water restrictions become effective immediately after being advertised in the media, and in public places. - Consumers must be closely monitored and those that do not heed the restrictions identified. The law enforcement department must undertake this function. - Maintenance teams must be made available to address leakages in indigent households. - All contraventions must be reported to the call center and followed up immediately by the law enforcement. - Any person who contravenes these restrictions is guilty of an offence and is, upon conviction, liable to a fine as published in the annual tariffs list.
Stage 2 (Half water provision from Brandvlei dam and Dassieshoek dam at 50%)	- No watering of gardens using municipal water - A fine in terms of Section 75 A of the Systems Act, being a 100% penalty on tariffs for monthly consumption in excess of 15 kiloliter per month per household connection, including indigent households. - No watering of sport fields, cricket pitches, golf course greens and/or bowling greens is permitted unless own source of water is used. - No filling of swimming pools. No washing of vehicles with any hose will be permitted including commercial enterprises whose business it is to wash cars. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Consultation with bulk consumers in the industrial and business sectors as identified through the billing system. - Installation of flow restrictors to non-compliant consumers to water restrictions.
Stage 3 (Zero water provision from Brandvlei dam)	- Restrictions as applicable in stage 2. - A fine in terms of Section 75 A of the Systems Act, being a 200% penalty on tariffs for monthly consumption in excess of 6 kiloliter per month per household connection, including indigent households. - Media to be used extensively for public awareness. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Bulk consumers in the industrial and business sectors to reduce consumption to 30% of the average for that specific month over the last 3 years.
McGregor	
Stage 1 (Vaal dam at 50%)	- Suspension of leiwater. - Watering of gardens may only be undertaken for two hours per day between 18H00 – 20H00, two days per week. - A fine in terms of Section 75 A of the Systems Act, being a 50% penalty on tariffs for monthly consumption in excess of 30 kiloliter per month per household connection, excluding indigent households.

Table C.3.1.2: Water restriction stages and the measures to be taken for each stage	
Restriction Stage	Measures to be taken
	- At sport fields only watering of cricket pitches, golf course greens and bowling greens is permitted for two hours per day, twice per week, unless own source of water is used. - No housing of roofs and driveways and no washing of vehicles with a garden hose will be permitted. - That the restriction referred to in the fourth bullet above not be applicable to any bona fide and full time commercial enterprises whose business it is to wash cars. - An effective awareness and education campaign processes must be conducted. The public awareness campaign must be intensified. A specific service provider with the relevant experience, must be identified to fulfill this function. - That water restrictions become effective immediately after being advertised in the media, and in public places. - Consumers must be closely monitored and those that do not heed the restrictions identified. The law enforcement department must undertake this function. - Maintenance teams must be made available to address leakages in indigent households. - All contraventions must be reported to the call center and followed up immediately by the law enforcement. - Any person who contravenes these restrictions is guilty of an offence and is, upon conviction, liable to a fine as published in the annual tariffs list.
Stage 2 (Vaal dam at 25%)	- No watering of gardens using municipal water - A fine in terms of Section 75 A of the Systems Act, being a 100% penalty on tariffs for monthly consumption in excess of 15 kiloliter per month per household connection, including indigent households. - No watering of sport fields, cricket pitches, golf course greens and/or bowling greens is permitted unless own source of water is used. - No filling of swimming pools. No washing of vehicles with any hose will be permitted including commercial enterprises whose business it is to wash cars. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Consultation with bulk consumers in the industrial and business sectors as identified through the billing system. - Installation of flow restrictors to non-compliant consumers to water restrictions.
Stage 3 (Vaal dam at 0%)	- Restrictions as applicable in stage 2. - A fine in terms of Section 75 A of the Systems Act, being a 200% penalty on tariffs for monthly consumption in excess of 6 kiloliter per month per household connection, including indigent households. - Media to be used extensively for public awareness. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Bulk consumers in the industrial and business sectors to reduce consumption to 30% of the average for that specific month over the last 3 years.
Bonnievale	
Stage 1 (Two third water provision from Brandvlei dam)	- Watering of gardens may only be undertaken for two hours per day between 18H00 – 20H00, two days per week. - A fine in terms of Section 75 A of the Systems Act, being a 50% penalty on tariffs for monthly consumption in excess of 30 kiloliter per month per household connection, excluding indigent households. - At sport fields only watering of cricket pitches, golf course greens and bowling greens is permitted for two hours per day, twice per week, unless own source of water is used. - No housing of roofs and driveways and no washing of vehicles with a garden hose will be permitted. - That the restriction referred to in the third bullet above not be applicable to any bona fide and full time commercial enterprises whose business it is to wash cars. - An effective awareness and education campaign processes must be conducted. The public awareness campaign must be intensified. A specific service provider with the relevant experience, must be identified to fulfill this function. - That water restrictions become effective immediately after being advertised in the media, and in public places. - Consumers must be closely monitored and those that do not heed the restrictions identified. The law enforcement department must undertake this function. - Maintenance teams must be made available to address leakages in indigent households. - All contraventions must be reported to the call centre and followed up immediately by the law enforcement. - Any person who contravenes these restrictions is guilty of an offence and is, upon conviction, liable to a fine as published in the annual tariffs list.
Stage 2 (Half water provision from Brandvlei dam)	- No watering of gardens using municipal water - A fine in terms of Section 75 A of the Systems Act, being a 100% penalty on tariffs for monthly consumption in excess of 15 kiloliter per month per household connection, including indigent households. - No watering of sport fields, cricket pitches, golf course greens and/or bowling greens is permitted unless own source of water is used. - No filling of swimming pools. No washing of vehicles with any hose will be permitted including commercial enterprises whose business it is to wash cars. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Consultation with bulk consumers in the industrial and business sectors as identified through the billing system.

Table C.3.1.2: Water restriction stages and the measures to be taken for each stage	
Restriction Stage	Measures to be taken
	Installation of flow restrictors to non-compliant consumers to water restrictions.
Stage 3 (Zero water provision from Brandvlei dam)	- Restrictions as applicable in stage 2. - A fine in terms of Section 75 A of the Systems Act, being a 200% penalty on tariffs for monthly consumption in excess of 6 kiloliter per month per household connection, including indigent households. - Media to be used extensively for public awareness. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Bulk consumers in the industrial and business sectors to reduce consumption to 30% of the average for that specific month over the last 3 years.
Ashton	
Stage 1 (Two third water provision from Brandvlei dam)	- Watering of gardens may only be undertaken for two hours per day between 18H00 – 20H00, two days per week. - A fine in terms of Section 75 A of the Systems Act, being a 50% penalty on tariffs for monthly consumption in excess of 30 kiloliter per month per household connection, excluding indigent households. - At sport fields only watering of cricket pitches, golf course greens and bowling greens is permitted for two hours per day, twice per week, unless own source of water is used. - No housing of roofs and driveways and no washing of vehicles with a garden hose will be permitted. - That the restriction referred to in the third bullet above not be applicable to any bona fide and full time commercial enterprises whose business it is to wash cars. - An effective awareness and education campaign processes must be conducted. The public awareness campaign must be intensified. A specific service provider with the relevant experience, must be identified to fulfill this function. - That water restrictions become effective immediately after being advertised in the media, and in public places. - Consumers must be closely monitored and those that do not heed the restrictions identified. The law enforcement department must undertake this function. - Maintenance teams must be made available to address leakages in indigent households. - All contraventions must be reported to the call center and followed up immediately by the law enforcement. - Any person who contravenes these restrictions is guilty of an offence and is, upon conviction, liable to a fine as published in the annual tariffs list.
Stage 2 (Half water provision from Brandvlei dam)	- No watering of gardens using municipal water - A fine in terms of Section 75 A of the Systems Act, being a 100% penalty on tariffs for monthly consumption in excess of 15 kiloliter per month per household connection, including indigent households. - No watering of sport fields, cricket pitches, golf course greens and/or bowling greens is permitted unless own source of water is used. - No filling of swimming pools. No washing of vehicles with any hose will be permitted including commercial enterprises whose business it is to wash cars. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Consultation with bulk consumers in the industrial and business sectors as identified through the billing system. - Installation of flow restrictors to non-compliant consumers to water restrictions.
Stage 3 (Zero water provision from Brandvlei dam)	- Restrictions as applicable in stage 2. - A fine in terms of Section 75 A of the Systems Act, being a 200% penalty on tariffs for monthly consumption in excess of 6 kiloliter per month per household connection, including indigent households. - Media to be used extensively for public awareness. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Bulk consumers in the industrial and business sectors to reduce consumption to 30% of the average for that specific month over the last 3 years.
Montagu	
Stage 1 (Two third water provision from Brandvlei dam)	- Watering of gardens may only be undertaken for two hours per day between 18H00 – 20H00, two days per week - A fine in terms of Section 75 A of the Systems Act, being a 50% penalty on tariffs for monthly consumption in excess of 30 kiloliter per month per household connection, excluding indigent households. - At sport fields only watering of cricket pitches, golf course greens and bowling greens is permitted for two hours per day, twice per week, unless own source of water is used. - No housing of roofs and driveways and no washing of vehicles with a garden hose will be permitted. - That the restriction referred to in the third bullet above not be applicable to any bona fide and full time commercial enterprises whose business it is to wash cars. - An effective awareness and education campaign processes must be conducted. The public awareness campaign must be intensified. A specific service provider with the relevant experience, must be identified to fulfill this function. - That water restrictions become effective immediately after being advertised in the media, and in public places. - Consumers must be closely monitored and those that do not heed the restrictions identified. The law enforcement department must undertake this function.

Table C.3.1.2: Water restriction stages and the measures to be taken for each stage	
Restriction Stage	Measures to be taken
	- Maintenance teams must be made available to address leakages on erven in indigent households. - All contraventions must be reported to the call centre and followed up immediately by the law enforcement. - Any person who contravenes these restrictions is guilty of an offence and is, upon conviction, liable to a fine as published in the annual tariffs list.
Stage 2 (Half water provision from Brandvlei dam)	- No watering of gardens using municipal water - A fine in terms of Section 75 A of the Systems Act, being a 100% penalty on tariffs for monthly consumption in excess of 15 kiloliter per month per household connection, including indigent households. - No watering of sport fields, cricket pitches, golf course greens and/or bowling greens is permitted unless own source of water is used. - No filling of swimming pools. No washing of vehicles with any hose will be permitted including commercial enterprises whose business it is to wash cars. - Stricter policing and implementation of a complaint line and whistle blowers facility - Consultation with bulk consumers in the industrial and business sectors as identified through the billing system. - Installation of flow restrictors to non -compliant consumers to water restrictions.
Stage 3 (Zero water provision from Brandvlei dam)	- Restrictions as applicable in stage 2. - A fine in terms of Section 75 A of the Systems Act, being a 200% penalty on tariffs for monthly consumption in excess of 6 kiloliter per month per household connection, including indigent households. - Media to be used extensively for public awareness. - Stricter policing and implementation of a complaint line and whistle blowers facility. - Bulk consumers in the industrial and business sectors to reduce consumption to 30% of the average for that specific month over the last 3 years.

The sewerage tariff structures for Langeberg Municipality for the 2024/2025 financial year and the previous four financial years are summarised in the table below (Subject to 15% VAT).

Table C.3.1.3: Sewerage tariffs for Langeberg Municipality for the last five financial years							
Consumer / Description	Tariff Code	Category	24/25	23/24	22/23	21/22	20/21
<= 20mm Connection	1550	General	R232-65	R219-48	R205-51	R193-87	R182-90
	1564	Indigent Tariff (Income <= 4400 / month) 100% Subsidised	R232-65	R219-48	R205-51	R193-87	R182-90
	1565	Informal Housing (100% Subsidised)	R232-65	R219-48	R205-51	R193-87	R182-90
23 – 50mm Connection	1580	6000 kl water per year or part thereof = 1 unit	R585-29	R552-16	R517-00	R487-74	R460-13
> 50mm Connection	1590	6000 kl water per year or part thereof = 1 unit	R1 322-36	R1 247-51	R1 168-08	R1 101-97	R1 039-59
Complexes/development liable for internal services	1570	Basic per unit	90% of Basic Fee				
Abattoir: Abattoir Waste	1595	General (1 – 5 loads)	R2 130-44	R2 009-85	R1 881-88	R1 775-36	R1 674-87
	1599	Conservancy tanker removals more than 5 per month per removal.	R955-03	R900-98	R843-61	R795-86	R750-81
		plus cost per km	R36-74	R34-66	R32-45	R30-61	R28-88
	5560	Sewage outflow	R5 319-73	R5 018-61	R4 699-07	R4 433-09	R4 182-16
Availability Fees	1710	Erven >= 200m ² : Excluding properties zoned for agricultural purposes, roads, play parks and parking areas belonging to homeowners associations and properties which is land locked and cannot be developed.	R232-65	R219-48	R205-51	R193-87	R182-90
Sport Grounds	1598	General	R203-25	R191-75	R179-54	R169-38	R159-79
Business that make their toilets facilities available to the public		Sewage tariffs are exempted					
Municipal Departments	7550	General <= 20mm Water Connection	R232-65	R219-48	R205-51	R193-87	R182-90
	7580	23-50mm water connection	R581-50	R548-58	R513-65	R484-58	R457-15
	7590	>50mm water connection	R1 322-36	R1 247-51	R1 168-08	R1 094-85	R1 032-88
	7598	Sport grounds	R203-25	R191-75	R179-54	R169-38	R159-79

C.3.2. Metering, Billing and Free Basic Services

Service charges relating to water are based on consumption and a basic charge. Meters are read on a monthly basis and are recognised as revenue when invoiced. Provisional estimates of consumption are made monthly when meter readings have not been performed. The provisional estimates of consumption are recognised as revenue when invoiced. Adjustments to provisional estimates of consumption are made in the invoicing period in which meters have been read. These adjustments are recognised as revenue in the invoicing period.

The table below gives an overview of the metering, billing and free basic services of Langeberg Municipality.

Table C.3.2.1: Overview of Metering, Billing and Free Basic Services					
Regulations Ref. #	Description	Unit	Year 0	Year - 1	Year - 2
			FY2024/25	FY2023/24	FY2022/23
	UNITS SUPPLIED (as per water services access profile)				
10.2 (b) (i)	Household water connections (house and yard connections)	Nr	31 136	28 822	28 152
10.2 (b) (iv)	Household sewerage connections	Nr	30 466	27 303	27 473
	METERING				
	Metered Water Connections (aligned with Table C.2.1)				
	Residential	Nr	16 834	16 814	16 794
	Commercial / Business	Nr	800	794	788
	Industrial	Nr	43	43	43
	Government / Institutional	Nr	106	106	106
	Other	Nr	145	140	135
	Sub-Total: Metered Water Connections	Nr	17 928	17 897	17 866
	Proportion of metered connections (residential) *	%	54%	58%	60%
	Total number of meters	Nr	17 928	17 897	17 866
10.2 (b) (vi)	Total number of new connections (aligned with Table C.2.1)	Nr	28	44	40
10.2 (e) (i)	Total number of new meters installed	Nr	28	44	40
	Proportion of new connections, metered	%	100.0%	100.0%	100.0%
	Number of meters tested	Nr	0	0	0
10.2 (e) (ii)	Proportion of meters tested to total number of meters	%	0.0%	0.0%	0.0%
	Number of meters replaced	Nr	1 203	1 150	788
10.2 (e) (ii)	Proportion of meters replaced to total number of meters	%	6.7%	6.4%	4.4%
	BILLING				
	Customer billing (water and sewerage)		Nr	Nr	Nr
	Residential	Nr	16 834	16 814	16 794
	Commercial / Business	Nr	800	794	788
	Industrial	Nr	43	43	43
	Government / Institutional	Nr	106	106	106
	Other	Nr	145	140	135
	Sub-Total: Customers billed	Nr	17 928	17 897	17 866
	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%	100%	100%
	Other	%	100%	100%	100%
	FREE BASIC SERVICES				
	Nr customers receiving:				
	Free Basic Water	Nr	4 748	6 234	6 043
10.2 (b) (v)	Free Basic Sanitation	Nr	4 597	6 091	6 033
	Proportion of Free Basic Services				
	Water	%	28%	37%	36%
	Sewerage	%	27%	36%	36%

Note: * All residential consumers in the urban areas of Langeberg Municipality are metered. The "Water Services Access Profile" however includes the consumers on the farms and the backyard dwellers on formal erven in the urban areas. Backyard dwellers use the service of the main house, which is metered. Consumers on the farms utilise their own water sources, which is not metered by the Municipality, therefore the 54%-60% compliance in the above table.

The two graphs below give an overview of the number of water meters replaced per financial year.

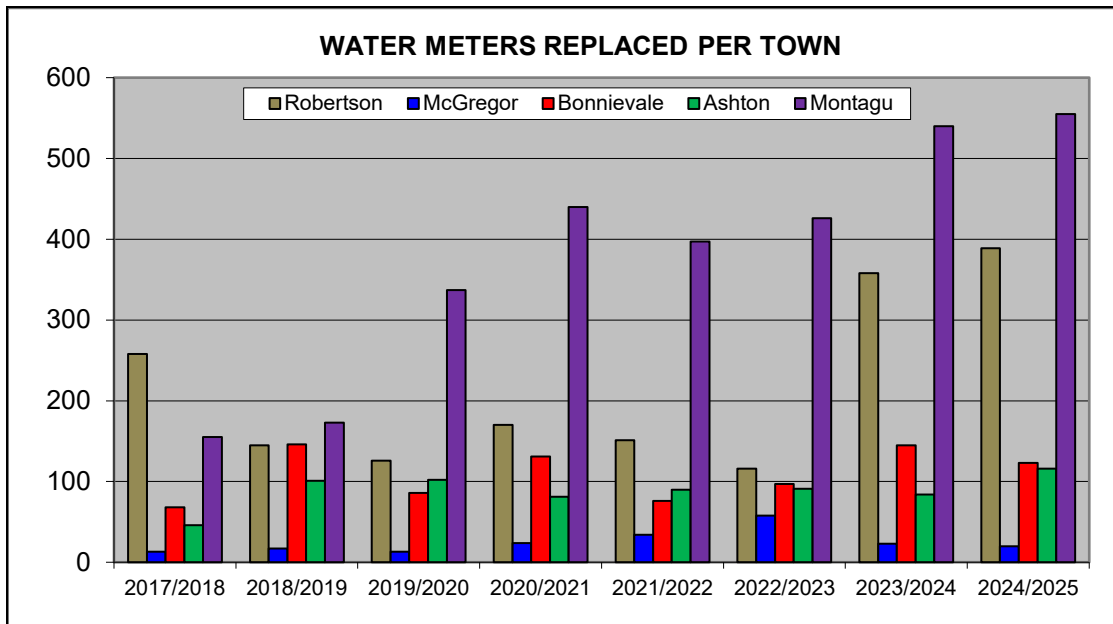


Figure C.3.2.1: Number of water meters replaced during the various financial years per town

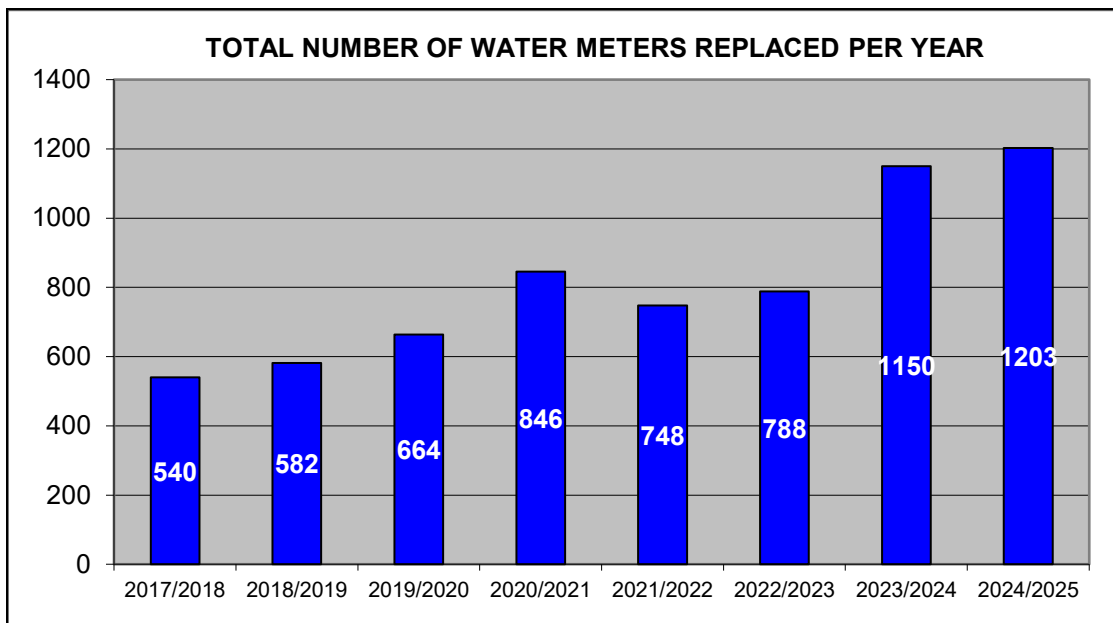


Figure C.3.2.2: Total number of water meters replaced per financial year

C.3.3. Revenue Collection and Cost Recovery

The table and figures below gives an overview of Langeberg Municipality's water services revenue collection and cost recovery. The collection efficiency percentages for water and sanitation services were not received from the Financial Department and the collections were therefore indicated the same as the Billed plus Equitable share income values in the table below.

Table C.3.3.1: Overview of Water Services Revenue Collection and Cost Recovery				
Regulation s Ref. #	Description	Year 0	Year - 1	Year - 2
		FY2024/25	FY2023/24	FY2022/23
	INCOME			
	Billed			
	Water reticulation / provision	R 83 912 009	R 55 405 011	R 57 125 480
	Sewerage / wastewater	R 39 357 331	R 46 629 612	R 42 482 985
	Sub-Total: Billed	R 123 269 340	R 102 034 623	R 99 608 465
	Collections			
	Water reticulation / provision	R 93 921 306	R 63 684 841	R 63 035 016
	Sewerage / wastewater	R 50 091 475	R 61 300 365	R 59 895 556
	Sub-Total: Collections	R 144 012 781	R 124 985 206	R 122 930 572
	Equitable share income			
	Water reticulation / provision	R 10 009 297	R 8 279 830	R 5 909 536
	Sewerage / wastewater	R 10 734 144	R 14 670 753	R 17 412 571
	Sub-Total: Equitable share income	R 20 743 441	R 22 950 584	R 23 322 107
	EXPENDITURE (O&M)			
	Water services	R 67 310 399	R 65 295 204	R 54 418 883
	Sewerage / wastewater services	R 37 529 080	R 44 701 687	R 37 195 313
	Total: Water Services O&M	R 104 839 479	R 109 996 890	R 91 614 196
	COST RECOVERY ANALYSIS / RATIO	%	%	%
10.2 (d) (ii)	Billed as % of Cost			
	Water	139.5%	97.5%	115.8%
	Sewerage	133.5%	137.1%	161.0%
	Total	117.6%	92.8%	108.7%
10.2 (d) (iii)	Unrecovered as % of Cost			
	Water services	0.0%	0.0%	0.0%
	Sewerage / wastewater services	0.0%	0.0%	0.0%
	Total	0.0%	0.0%	0.0%

The figure below gives an overview of the revenue collection and cost recovery profile for water services for Langeberg Municipality.

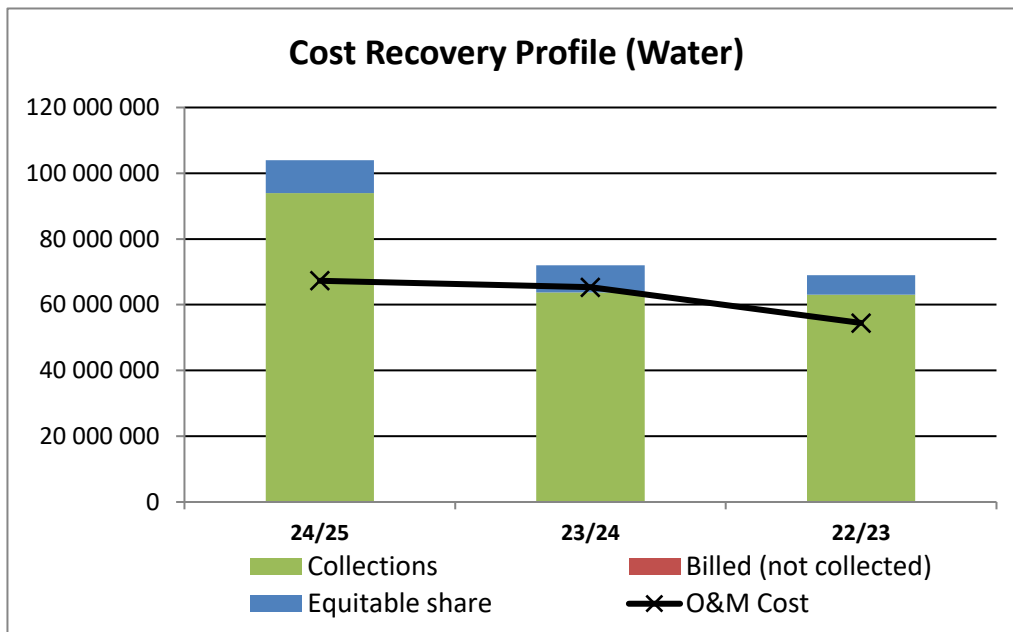


Figure C.3.3.1: Revenue collection and cost recovery profile (Water)

The figure below gives an overview of the revenue collection and cost recovery profile for wastewater services for Langeberg Municipality.

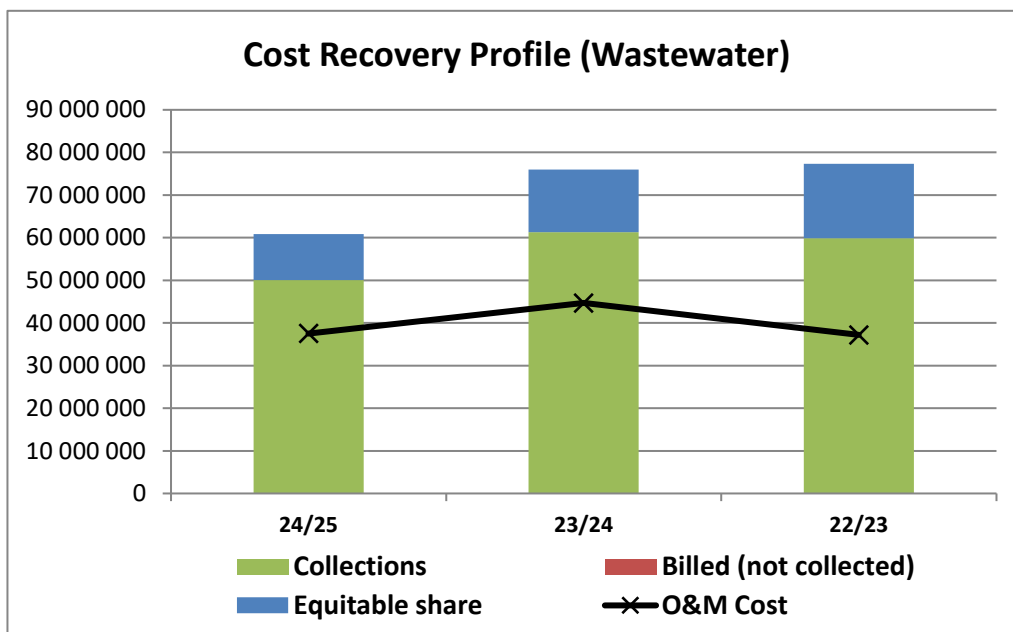


Figure C.3.3.2: Revenue collection and cost recovery profile (Wastewater)

Langeberg Municipality's Operational and Maintenance Budget and actual expenditure and income for water and sanitation services for the last fourteen financial years are included in Annexure F. The table below gives a summary of the information for the last five financial years.

Table C3.3.2: Summary of O&M expenditure and income for water and sanitation services for the last five financial years						
Service	Expenditure / Income	Actual 24/25	Actual 23/24	Actual 22/23	Actual 21/22	Actual 20/21
Water	Expenditure	R67 310 399-10	R65 295 203-61	R54 418 882-80	R52 015 227-73	R43 438 212-84
	Income	-R93 921 306-08	-R63 684 840-96	-R63 035 016-24	-R72 839 646-05	-R46 645 307-70
	- Surplus / Deficit	-R26 610 906-98	R1 610 362-65	-R8 616 133-44	-R20 824 418-32	-R3 207 094-86
Sanitation	Expenditure	R37 529 079-51	R44 701 686-56	R37 195 313-06	R40 597 490-44	R31 688 088-29
	Income	-R50 091 474-95	-R61 300 365-11	-R59 895 555-91	-R67 935 355-09	-R54 210 208-47
	- Surplus / Deficit	-R12 562 395-44	-R16 598 678-55	-R22 400 242-85	-R27 337 864-65	-R22 522 120-18
Water and Sanitation	- Surplus / Deficit	-R39 173 302-42	-R14 988 315-90	-R31 316 376-29	-R48 162 282-97	-R25 729 215-04

The table below gives an overview of the analysis of the consumer debtors' age in days per service for the last five financial years.

Table C.3.3.3: Analysis of Consumer Debtors age in days per service as on the 30th of June							
Service	Current	30 Days	60 Days	90 Days	120 Days	>120 Days	Total
30th of June 2025							
Rates	R8 577 301	R3 263 849	R2 790 196	R2 118 278	R1 884 838	R34 994 883	R53 629 345
Other	R6 736	R0	R0	R0	R0	R0	R6 736
Housing	R17 522	R15 026	R14 057	R13 748	R13 544	R813 834	R887 731
Availability	R411 301	R249 708	R228 777	R223 637	R217 708	R11 079 712	R12 410 843
Sundries	R37 283	R29 217	R32 150	R33 747	R35 361	R2 792 740	R2 960 498
Rent Building Admin	R163 939	R76 916	R44 280	R33 120	R30 750	R798 674	R1 147 679
Electricity	R40 488 823	R18 186 129	R20 689 219	R4 882 212	R4 530 018	R19 048 362	R107 824 763
Sewerage	R3 652 417	R2 196 049	R1 928 688	R1 713 481	R1 630 374	R20 901 509	R32 022 518
Water	R7 437 820	R5 654 255	R9 222 429	R4 517 889	R3 749 831	R23 688 106	R54 270 330
Admin Fee	R9 874	R9 607	R9 636	R9 026	R8 739	R46 828	R93 710
Refuse	R3 533 554	R2 040 157	R1 777 221	R1 567 030	R1 486 954	R17 720 490	R28 125 406
Total	R64 336 570	R31 720 913	R36 736 653	R15 112 168	R13 588 117	R131 885 138	R293 379 559
30th of June 2024							
Rates	R4 672 908	R1 082 299	R1 287 011	R652 705	R584 167	R28 981 408	R37 260 498
Mun. Services	R0	R0	R0	R0	R0	R0	R0
Irrigation Water	R120 495	R17 994	R11 456	R8 542	R7 711	R212 450	R378 648
Housing	R12 796	R9 356	R8 451	R9 206	R7 629	R383 648	R431 086
Availability	R326 741	R211 796	R199 602	R183 280	R182 123	R9 264 875	R10 368 417
Sundries	R120 038	R146 457	R60 249	R121 135	R67 805	R2 784 188	R3 299 872
Rent Building Admin	R255 396	R28 288	R14 792	R13 563	R21 970	R753 556	R1 087 565
Electricity	R30 985 697	R3 049 674	R1 985 612	R1 632 953	R1 011 323	R3 671 423	R42 336 682
Sewerage	R2 552 974	R1 096 684	R920 193	R799 516	R729 451	R12 985 501	R19 084 319
Water	R5 335 858	R1 613 888	R1 165 922	R976 423	R911 408	R13 431 641	R23 435 140
Land Sales	R0	R0	R0	R0	R0	R18 601	R18 601
Admin Fee	R962	R543	R550	R854	R550	R94 147	R97 606
Refuse	R2 437 438	R984 789	R817 118	R710 558	R645 282	R9 515 767	R15 110 952
Total	R46 821 303	R8 241 768	R6 470 956	R5 108 735	R4 169 419	R82 097 205	R152 909 386
30th of June 2023							
Rates	R3 943 470	R838 414	R1 040 070	R596 756	R510 502	R21 944 882	R28 874 094
Mun. Services	R0	R0	R0	R0	R0	R0	R0
Irrigation Water	R48 379	R9 614	R6 233	R5 515	R4 771	R129 679	R204 191
Housing	R13 126	R11 001	R8 105	R8 350	R7 725	R341 316	R389 623
Availability	R225 679	R142 208	R127 799	R122 602	R116 130	R8 310 059	R9 044 477

Table C.3.3.3: Analysis of Consumer Debtors age in days per service as on the 30th of June							
Service	Current	30 Days	60 Days	90 Days	120 Days	>120 Days	Total
Sundries	R89 588	R31 847	R37 436	R71 677	R61 187	R2 462 019	R2 753 754
Rent Building Admin	R86 209	R18 934	R24 291	R22 912	R28 748	R582 299	R763 393
Electricity	R22 443 477	R1 163 508	R353 742	R246 899	R213 708	R2 609 136	R27 030 470
Sewerage	R2 313 607	R939 453	R754 528	R717 127	R650 753	R8 669 584	R14 045 052
Water	R3 705 518	R1 220 794	R841 124	R778 530	R726 212	R8 855 065	R16 127 243
Land Sales	R0	R0	R0	R0	R0	R18 667	R18 667
Admin Fee	R325	R327	R329	R334	R336	R89 733	R91 384
Refuse	R2 152 731	R831 698	R664 346	R626 957	R563 902	R6 656 339	R11 495 973
Total	R35 022 109	R5 207 798	R3 858 003	R3 197 659	R2 883 974	R60 668 778	R110 838 321
30th of June 2022							
Rates	R3 939 432	R1 161 069	R738 812	R646 639	R666 724	R16 986 845	R24 139 521
Mun. Services	R0	R0	R0	R0	R0	R0	R0
Irrigation Water	R42 783	R15 272	R12 397	R7 498	R6 329	R164 472	R248 751
Housing	R13 121	R10 134	R9 710	R9 188	R7 987	R476 362	R526 502
Availability	R222 652	R133 532	R124 844	R117 780	R116 761	R7 570 596	R8 286 165
Sundries	R236 719	R50 770	R65 684	R47 017	R53 559	R2 276 830	R2 730 579
Rent Building Admin	R133 114	R61 611	R41 063	R42 598	R82 716	R383 905	R745 007
Electricity	R26 997 689	R2 982 977	R1 500 972	R795 542	R379 093	R3 702 197	R36 358 470
Sewerage	R2 159 430	R1 014 996	R860 324	R776 571	R691 177	R6 882 728	R12 385 226
Water	R4 031 622	R1 493 174	R1 213 346	R1 027 472	R903 146	R6 934 123	R15 602 883
Land Sales	R0	R0	R0	R0	R0	R44 536	R44 536
Admin Fee	R776	R707	R708	R708	R715	R134 138	R137 752
Refuse	R2 012 865	R910 557	R761 327	R684 970	R606 919	R5 466 466	R10 443 104
Total	R39 790 203	R7 834 799	R5 329 187	R4 155 983	R3 515 126	R51 023 198	R111 648 496
30th of June 2021							
Rates	R2 571 242	R425 380	R293 321	R265 410	R1 588 781	R10 605 478	R15 749 612
Mun. Services	R0	R0	R0	R0	R0	R0	R0
Irrigation Water	R40 802	R11 833	R6 519	R5 005	R12 756	R127 005	R203 920
Housing	R13 991	R9 328	R8 705	R177 806	R23 413	R257 431	R490 674
Availability	R221 290	R125 578	R112 765	R103 155	R1 046 838	R6 013 370	R7 622 996
Sundries	R445 013	R164 608	R40 684	R27 488	R398 440	R1 409 651	R2 485 884
Rent Building Admin	R104 600	R54 408	R29 013	R52 637	R51 676	R238 744	R531 078
Electricity	R22 476 308	R1 293 324	R348 913	R178 344	R363 282	R2 174 370	R26 834 541
Sewerage	R1 846 159	R627 596	R455 419	R372 539	R1 015 203	R5 546 406	R9 863 322
Water	R3 429 985	R1 114 424	R827 937	R603 698	R1 039 697	R5 255 559	R12 271 300
Land Sales	R0	R0	R0	R0	R40 391	R0	R40 391
Admin Fee	R1 249	R1 313	R1 344	R1 227	R83 499	R169 446	R258 078
Refuse	R1 650 356	R530 833	R383 240	R325 259	R783 469	R4 441 120	R8 114 277
Total	R32 800 995	R4 358 625	R2 507 860	R2 112 568	R6 447 445	R36 238 580	R84 466 073

The graph below gives an overview of the total debtors for the various services for the last five financial years.

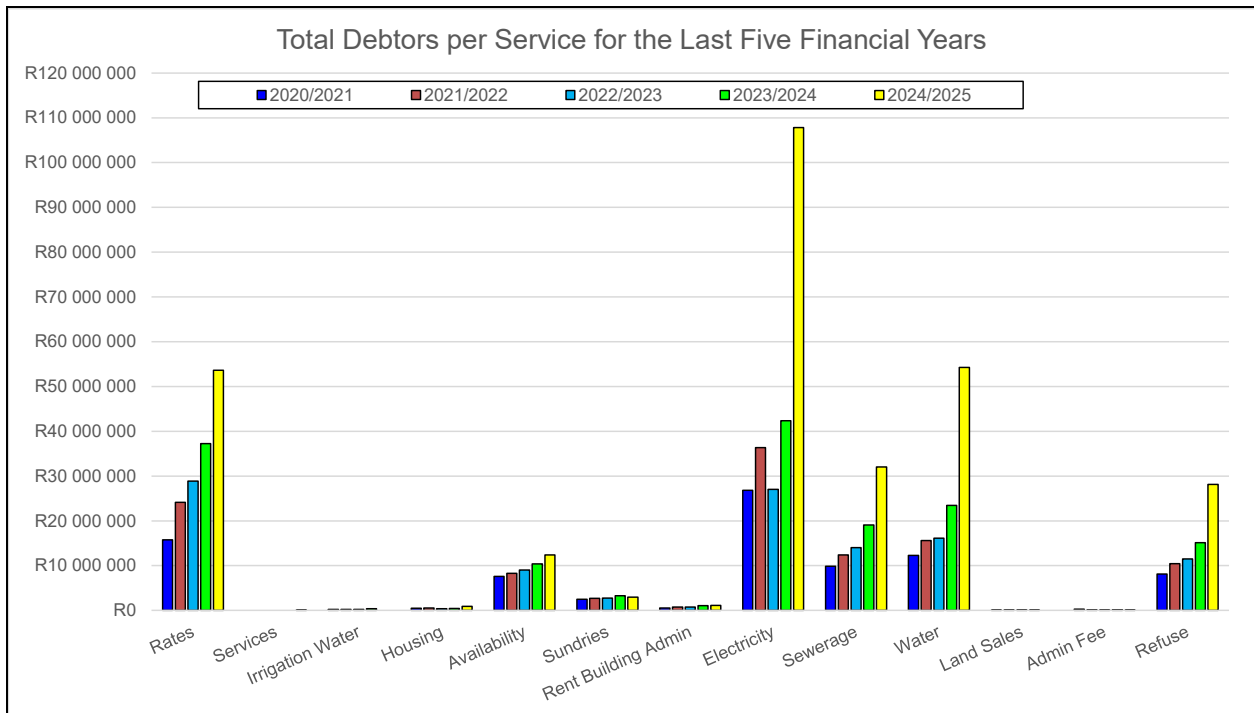


Figure C.3.3.3: Total debtors per service for the last five financial years

The graph below gives an overview of the total debtors for the last eleven financial years.

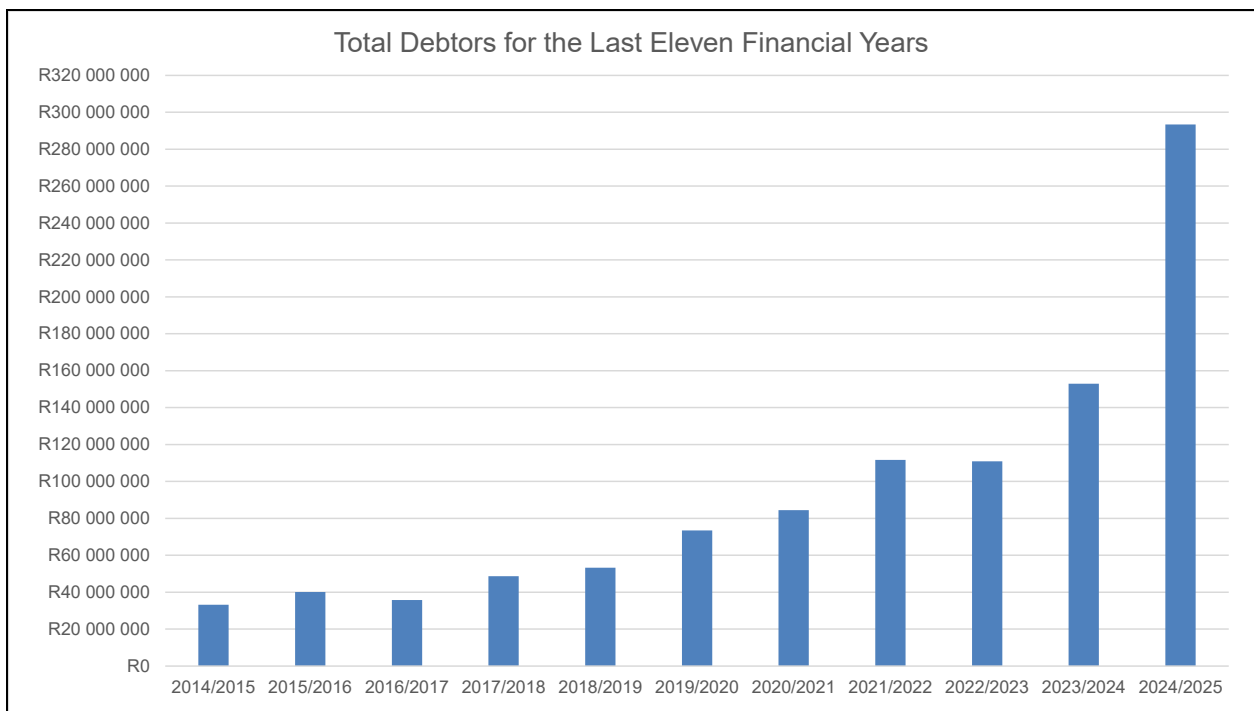


Figure C.3.3.4: Total debtors for the last eleven financial years

C.4. Water Quality

C.4.1. Sampling Programme

The tables below give an overview of Langeberg Municipality's compliance monitoring programme for potable water quality per town. The current compliance monitoring is done by an accredited external laboratory. The Municipality continuously strive to provide good quality water and strive to comply with SANS241:2015 water quality limits for all their water supply networks.

Table C.4.1.1: Sampling Programme for Potable Water Quality for Robertson								
Treated Water Schemes: Robertson (Treated Water and Reticulation)								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category (Compliance SANS 241:2015)	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Name	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
	Water Treatment Works	Yes	Yes	Yes	Microbiological (Health)			
	Taxi Rank	Yes	Yes	Yes	E.Coli (Count per 100 ml)	30	30	30
	Nkubela Old Age Home	Yes	Yes	Yes				
	EFBEE Motors	Yes	Yes	Yes	Aesthetic			
	Lusermbos 55	Yes	Yes	Yes	Colour (mg/l)	30	30	30
	Vergesig Primary School	Yes	Yes	Yes	Iron as Fe at WTW (µg/l)	30	30	30
	Nkubele Reservoir	Yes	Yes	Yes	Conductivity at 25 °C at WTW (mS/m)	30	30	30
	Robertson Reservoir	Yes	Yes	Yes	Total Dissolved Solids (mg/l)	30	30	30
	TDS and Turbidity not sampled at reservoirs				Operational			
					Turbidity NTU	30	30	30
					Aluminium as Al at WTW (µg/l)	30	30	30
					Total Coliform Count per 100 ml	30	30	30
					Heterotrophic Plate Count count per 1ml	30	30	30
					pH at 25°C	30	30	30
					Somatic Coliphages	30	30	30
					Disinfectant Residual			
					Free chlorine (mg/l)	30	30	30
					Not in STD / Limit Set			
					Monochloramine at WTW (mg/l)	30	30	30

Table C.4.1.2: Sampling Programme for Potable Water Quality for McGregor								
Treated Water Schemes: McGregor (Treated Water and Reticulation)								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category (Compliance SANS 241:2015)	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Name	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
	Water Treatment Works	Yes	Yes	Yes	Microbiological (Health)			
	Griewe Straat	Yes	Yes	Yes	E.Coli (Count per 100 ml)	30	30	30
	Clinic	Yes	Yes	Yes				
	Rural Area	Yes	Yes	Yes	Aesthetic			
					Colour (mg/l)	30	30	30
					Iron as Fe at WTW (µg/l)	30	30	30
					Conductivity at 25 °C (mS/m)	30	30	30
					Total Dissolved Solids (mg/l)	30	30	30
					Operational			
					Turbidity NTU	30	30	30
					Aluminium as Al at WTW (µg/l)	30	30	30
					Total Coliform Count per 100 ml	30	30	30
					Heterotrophic Plate Count count per 1ml	30	30	30
					pH at 25°C	30	30	30
					Somatic Coliphages	30	30	30
					Disinfectant Residual			
					Free chlorine (mg/l)	30	30	30
					Not in STD / Limit Set			
					Monochloramine at WTW (mg/l)	30	30	30

Table C.4.1.3: Sampling Programme for Potable Water Quality for Bonnievale

Treated Water Schemes: Bonnievale (Treated Water and Reticulation)								
Registered		Active (yes/no)			Determinands per Category (Compliance SANS 241:2015)	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Name	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
	Water Treatment Works	Yes	Yes	Yes	Microbiological (Health)			
	Parmalat	Yes	Yes	Yes	E.Coli (Count per 100 ml)	30	30	30
	Chris V. Community Center	Yes	Yes	Yes				
	Community Center, Happy Valley	Yes	Yes	Yes	Aesthetic			
	Small Reservoir	Yes	Yes	Yes	Colour (mg/l)	30	30	30
	Mid Reservoir	Yes	Yes	Yes	Iron as Fe at WTW (µg/l)	30	30	30
	New Reservoir	Yes	Yes	Yes	Conductivity at 25 °C (mS/m)	30	30	30
					Total Dissolved Solids (mg/l)	30	30	30
	TDS and Turbidity not sampled at reservoirs							
					Operational			
					Turbidity NTU	30	30	30
					Aluminium as Al at WTW (µg/l)	30	30	30
					Total Coliform Count per 100 ml	30	30	30
					Heterotrophic Plate Count count per 1ml	30	30	30
					pH at 25°C	30	30	30
					Somatic Coliphages	30	30	30
					Disinfectant Residual			
					Free chlorine (mg/l)	30	30	30
					Not in STD / Limit Set			
					Monochloramine at WTW (mg/l)	30	30	30

Table C.4.1.4: Sampling Programme for Potable Water Quality for Ashton

Treated Water Schemes: Ashton (Treated Water and Reticulation)								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category (Compliance SANS 241:2015)	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Name	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
	Water Treatment Works	Yes	Yes	Yes	Microbiological (Health)			
	Municipal Office	Yes	Yes	Yes	E.Coli (Count per 100 ml)	30	30	30
	H. Venter Primary	Yes	Yes	Yes				
	Ashton Zolani Clinic	Yes	Yes	Yes	Aesthetic			
	Main Reservoir	Yes	Yes	Yes	Colour (mg/l)	30	30	30
	Zolani Reservoir	Yes	Yes	Yes	Iron as Fe at WTW (µg/l)	30	30	30
					Conductivity at 25 °C (mS/m)	30	30	30
	TDS and Turbidity not sampled at reservoirs				Total Dissolved Solids (mg/l)	30	30	30
					Operational			
					Turbidity NTU	30	30	30
					Aluminium as Al at WTW (µg/l)	30	30	30
					Total Coliform Count per 100 ml	30	30	30
					Heterotrophic Plate Count count per 1ml	30	30	30
					pH at 25°C	30	30	30
					Somatic Coliphages	30	30	30
					Disinfectant Residual			
					Free chlorine (mg/l)	30	30	30
					Not in STD / Limit Set			
					Monochloramine at WTW (mg/l)	30	30	30

Table C.4.1.5: Sampling Programme for Potable Water Quality for Montagu

Treated Water Schemes: Montagu (Treated Water and Reticulation)								
Registered Sites per Scheme		Active (yes/no)			Determinands per Category (Compliance SANS 241:2015)	Frequency (days)		
		Year 0	Year-1	Year-2		Year 0	Year-1	Year-2
#	Name	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
WCBMMO-001	Treated Water	Yes	Yes	Yes	Microbiological (Health)			
	Hospital	Yes	Yes	Yes	E.Coli (Count per 100 ml)	30	30	30
	Montagu Dried Fruit	Yes	Yes	Yes				
	Ashbury Library	Yes	Yes	Yes	Aesthetic			
	George Brink Reservoir	Yes	Yes	Yes	Colour (mg/l)	30	30	30
	Montagu South Reservoir	Yes	Yes	Yes	Iron as Fe at WTW (µg/l)	30	30	30
	Ashbury Lower Reservoir	Yes	Yes	Yes	Conductivity at 25 °C (mS/m)	30	30	30
					Total Dissolved Solids (mg/l)	30	30	30
	TDS and Turbidity not sampled at reservoirs							
					Operational			
					Turbidity NTU	30	30	30
					Aluminium as Al at WTW (µg/l)	30	30	30
					Total Coliform Count per 100 ml	30	30	30
					Heterotrophic Plate Count count per 1ml	30	30	30
					pH at 25°C	30	30	30
					Somatic Coliphages	30	30	30
					Disinfectant Residual			
					Free chlorine (mg/l)	30	30	30
					Not in STD / Limit Set			
					Monochloramine at WTW (mg/l)	30	30	30

The current operational and compliance water quality sampling programmes of Langeberg Municipality for the various WTWs and water distribution systems are summarised in the table below.

Table C.4.1.6: Current operational and compliance water quality parameters sampled by Langeberg Municipality for the various WTWs and water distribution systems: Routine monitoring of Process Indicators			
Sampling Point	Frequency of Sampling	Samples taken by	Current Parameters Sampled
Robertson WTW and water reticulation network			
Raw Water	Per shift	PC	Turbidity, pH, Jar Test (Dependent on quality), Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite, Total Microcystin
	Yearly	External Lab	Full SANS
Flocculated Water	Per shift	PC	pH
Settled Water	Per shift	PC	Turbidity, pH
Filtered Water	Per shift	PC	Turbidity, pH
Final Water	Per shift	PC	Turbidity, pH, Free Chlorine, Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine, Giardia Species, Cryptosporidium Species, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Distribution System	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages
McGregor WTW and water reticulation network			
Raw Water	In morning	PC	Turbidity, pH
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Settled Water	In morning	PC	Turbidity, pH
Filtered Water	In morning	PC	Turbidity, pH
Final Water	In morning	PC	Turbidity, pH, Free Chlorine
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine, Giardia Species, Cryptosporidium Species, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Distribution System	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages
Bonnievale WTW and water reticulation network			
Raw Water	Per shift	PC	Turbidity, pH, Jar Test (Dependent on quality), Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Flocculated Water	Per shift	PC	pH

Table C.4.1.6: Current operational and compliance water quality parameters sampled by Langeberg Municipality for the various WTWs and water distribution systems: Routine monitoring of Process Indicators			
Sampling Point	Frequency of Sampling	Samples taken by	Current Parameters Sampled
Settled Water	Per shift	PC	Turbidity, pH
Filtered Water	Per shift	PC	Turbidity, pH
Final Water	Per shift	PC	Turbidity, pH, Free Chlorine, Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine, Giardia Species, Cryptosporidium Species, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Distribution System	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages
Ashton WTW and water reticulation network			
Raw Water	Per shift	PC	Turbidity, pH, Jar Test (Dependent on quality), Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite, Total Microcystin
	Yearly	External Lab	Full SANS
Flocculated Water	Per shift	PC	pH
Settled Water	Per shift	PC	Turbidity, pH
Filtered Water	Per shift	PC	Turbidity, pH
Final Water	Per shift	PC	Turbidity, pH, Free Chlorine, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine, Giardia Species, Cryptosporidium Species, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite
	Yearly	External Lab	Full SANS
Distribution System	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages
Montagu WTW and water reticulation network			
Raw Water	08:00 and 14:00	PC	Turbidity, pH, Jar Test (Dependent on quality), Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite, Total Microcystin
	Yearly	External Lab	Full SANS
Settled Water	08:00 and 14:00	PC	Turbidity, pH
Filtered Water	08:00 and 14:00	PC	Turbidity, pH
Final Water	08:00 and 14:00	PC	Turbidity, pH, Free Chlorine, Fe, Colour
	Daily	PC	-
	Weekly	Internal Lab	-
	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine
	Quarterly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages, Aluminium, Iron, Monochloramine, Total Chlorine, Giardia Species, Cryptosporidium Species, Manganese, Ammonia Nitrogen, Chloride, Fluoride, Nitrate & Nitrite Nitrogen, Nitrate, Nitrite, Combined Nitrate plus Nitrite

Table C.4.1.6: Current operational and compliance water quality parameters sampled by Langeberg Municipality for the various WTWs and water distribution systems: Routine monitoring of Process Indicators			
Sampling Point	Frequency of Sampling	Samples taken by	Current Parameters Sampled
	Yearly	External Lab	Full SANS
Ashbury Reservoir	Every Third Day	PC	Turbidity, Chlorine
Distribution System	Monthly	External Lab	pH, Colour, Conductivity, Total Dissolved Solids, Turbidity, Free Chlorine, E.Coli, Heterotrophic Plate Count, Total Coliform Count, Somatic Coliphages

The Water Safety Plans include additional recommended water quality parameters to be sampled for the various WTWs and water reticulation networks, based on the water quality sampling programme included in Table C.4.1.6 and the minimum monitoring requirements of the SANS 241-2:2015 (Table 1: Minimum monitoring for prescribed process risk indicators) for the various WTWs and water reticulation networks.

The table below indicates the compliance of the E.Coli monitoring frequency in the water distribution systems of Langeberg Municipality, in terms of the minimum requirements of SANS:241-2: 2015 (Table 2). The period assessed was for samples taken from July 2024 to June 2025.

Table C.4.1.7: Langeberg Municipality's compliance of the monthly E.Coli monitoring frequency in the water distributions systems in terms of the minimum requirements of SANS 241-2:2015 (Table 2).			
Distribution System	Population served	Required number of monthly samples (SANS 241-2:2015: Table 2)	Number of monthly E.Coli samples taken by Municipality during 2024/2025
Robertson	38 204	8	8.0
McGregor	4 308	2	4.2
Bonnievale	12 533	3	8.0
Ashton	17 237	4	6.0
Montagu	23 735	5	7.1
Total	96 017	21	33.3

It can be noted from the above table that the number of monthly E.Coli samples taken by the Municipality during the 2024/2025 financial year was adequate for all the water distribution systems.

The table below gives an overview of Langeberg Municipality's compliance sampling programme for wastewater (final effluent) quality.

Table C.4.1.8: 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	FY2024/25	FY2023/24	FY2022/23		FY2024/25	FY2023/24	FY2022/23
1	Robertson	Yes	Yes	Yes	Microbiological			
2	McGregor	Yes	Yes	Yes	Faecal Coliforms (count per 100ml)	30	30	30
3	Bonnievale	Yes	Yes	Yes	E.Coli	30	30	30
4	Ashton	Yes	Yes	Yes				
5	Montagu	Yes	Yes	Yes	Chemical			
					Ammonia Nitrogen (mg/l as N)	30	30	30
					Nitrate Nitrogen (mg/l as N)	30	30	30
					Nitrite Nitrogen (mg/l as N)	30	30	30
					Ortho Phosphate (mg/l as P)	30	30	30
					COD (mg/l) Filtered	30	30	30
					COD (mg/l) Unfiltered	30	30	30
					Monochloramine (mg/l)	30	30	30
					Physical			
					Electrical Conductivity (mS/m)	30	30	30
					pH	30	30	30
					Total Suspended Solids (mg/l)	30	30	30
					Disinfectant Residual			
					Total chlorine (mg/l)	30	30	30
					Free chlorine (mg/l)	30	30	30

Notes:

SAR, Calcium, Magnesium and Sodium are also monitored for the McGregor WWTW.

E.Coli, Monochloramine, Total Chlorine and Free Chlorine are not monitored at the McGregor WWTW.

The current operational and compliance wastewater quality sampling programmes of Langeberg Municipality for the various WWTWs and sewer drainage systems are summarised in the table below.

Table C.4.1.9: Current operational and compliance wastewater quality parameters sampled by Langeberg Municipality for the various WWTWs and sewer drainage systems: Routine monitoring of Process Indicators			
Sampling Point	Frequency of Sampling	Samples taken by	Current Parameters Sampled
Robertson WWTW and sewer drainage network			
Bioreactor: Aeration Tank	Per Shift	PC	pH, VSC (30 minute)
Final Effluent	Per Shift	PC	Free Chlorine
Influent	Monthly	External Lab	pH, EC, COD, Total Kjeldahl Nitrogen, Ammonia Nitrogen, Ortho Phosphate, Total Alkalinity
Biofilter (After humus tanks)	Monthly	External Lab	pH, Settleable Solids, COD, Ammonia Nitrogen, Nitrate, Nitrite, DO
Bioreactor: Anoxic Tank	Monthly	External Lab	pH, Nitrate, Nitrite, TSS, DO
Bioreactor: Aeration Tank	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
SST	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
RAS	Monthly	External Lab	Total Suspended Solids
Final Effluent	Monthly	External Lab	pH, EC, Faecal Coliforms, COD, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Free Chlorine, Total Chlorine, E.Coli, Monochloramine
McGregor WWTW and sewer drainage network			
Influent	Monthly	External Lab	pH, EC, COD, Ammonia Nitrogen, Ortho Phosphate
Final Effluent	Monthly	External Lab	pH, EC, Faecal Coliforms, COD, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Calcium, Magnesium, Sodium, SAR
Bonnievale WWTW and sewer drainage network			
Bioreactor: Aeration Tank	Per Shift	PC	VSC (30 minute)
Final Effluent	Per Shift	PC	Free Chlorine
Influent	Monthly	External Lab	pH, EC, COD, Total Kjeldahl Nitrogen, Ammonia Nitrogen, Ortho Phosphate, Total Alkalinity
Bioreactor: Anoxic Tank	Monthly	External Lab	pH, Nitrate, Nitrite, TSS, DO
Bioreactor: Aeration Tank	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
SST No.1	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
SST No.2	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
RAS	Monthly	External Lab	Total Suspended Solids
Final Effluent	Monthly	External Lab	pH, EC, Faecal Coliforms, COD, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Free Chlorine, Total Chlorine, E.Coli, Monochloramine
Ashton WWTW and sewer drainage network			
Bioreactor: Aeration Tank No.1	Per Shift	PC	DO, VSC (30 minute)
Bioreactor: Aeration Tank No.2	Per Shift	PC	DO, VSC (30 minute)
Influent	Monthly	External Lab	pH, EC, COD, Total Kjeldahl Nitrogen, Ammonia Nitrogen, Ortho Phosphate, Total Alkalinity
Bioreactor: Aeration Tank No.1	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
Bioreactor: Aeration Tank No.2	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
SST No.1	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
SST No.2	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
RAS	Monthly	External Lab	Total Suspended Solids
Final Effluent	Monthly	External Lab	pH, EC, Faecal Coliforms, COD, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Free Chlorine, Total Chlorine, E.Coli, Monochloramine
Montagu WWTW and sewer drainage network			
Bioreactor: Aeration Tank No.1	Per Shift	PC	VSC (30 minute)
Bioreactor: Aeration Tank No.2	Per Shift	PC	VSC (30 minute)
Final Effluent	Per Shift	PC	Free Chlorine
Influent	Monthly	External Lab	pH, EC, COD, Total Kjeldahl Nitrogen, Ammonia Nitrogen, Ortho Phosphate, Total Alkalinity

Table C.4.1.9: Current operational and compliance wastewater quality parameters sampled by Langeberg Municipality for the various WWTWs and sewer drainage systems: Routine monitoring of Process Indicators			
Sampling Point	Frequency of Sampling	Samples taken by	Current Parameters Sampled
Bioreactor: Anoxic Tank	Monthly	External Lab	pH, Nitrate, Nitrite, TSS, DO
Bioreactor: Aeration Tank No.1	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
Bioreactor: Aeration Tank No.2	Monthly	External Lab	pH, Settleable Solids, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, DO, DSVI
SST No.1	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
SST No.2	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
SST No.3	Monthly	External Lab	pH, COD, Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Total Alkalinity
RAS	Monthly	External Lab	Total Suspended Solids
Final Effluent	Monthly	External Lab	pH, EC, Faecal Coliforms, COD, COD (Filtered), Ammonia Nitrogen, Nitrate, Nitrite, Total Suspended Solids, Ortho-phosphate, Free Chlorine, Total Chlorine, E.Coli, Monochloramine

The W₂RAPs include additional recommended wastewater quality parameters to be sampled for the various WWTWs and sewer drainage networks, based on the wastewater quality sampling programme included in Table C.4.1.9 and the required sampling included in the WWTW licences for the various WWTWs and sewer drainage networks.

The table below gives an overview of the compliance with regard to the water and wastewater quality compliance sampling programmes, as taken from the DWS IRIS.

Table C.4.1.10: Compliance to the Sampling Programme (s)																			
Measurable / Enabling Factor	Unit	Year 0						Year - 1						Year - 2					
		FY2024/25						FY2023/24						FY2022/23					
		MAH	CAH	CCH	CNA	O	D	MAH	CAH	CCH	CNA	O	D	MAH	CAH	CCH	CNA	O	D
Potable Water Quality																			
Supply system submissions	Nr registered	Information not available on IRIS						Information not available on IRIS						Information not available on IRIS					
	Nr submitted																		
	Annual %																		
Monitoring compliance	Average %																		
Certified Data	Average %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
In-Time Submission	Annual %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	92%	100%	93%	91%	93%	92%
Wastewater Quality																			
		M	C	P	O			M	C	P	O			M	C	P	O		
Monitoring compliance	Average %	98%	100%	7%	-			100%	100%	7%	-			100%	100%	91%	-		
Certified Data	Average %	100%	100%	100%	-			100%	100%	100%	-			100%	100%	100%	-		
In-Time Submission	Average %	100%	100%	100%	-			100%	100%	100%	-			95%	94%	92%	-		

Legend Water

MAH: Microbiological Acute Health; CAH: Chemical Acute Health; CCH: Chemical Chronic Health;

CNA: Chemical Non Health Aesthetic; O: Operational; D: Disinfectant

Legend Wastewater

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

Information in IRIS not correct

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

Table C.4.1.11: Water Quality Monitoring Overview from WSDP Guide Framework Perspective					
WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0	Year - 1	Year - 2
			FY2024/25	FY2023/24	FY2022/23
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 %	95%	95%	95%
9.2.2	% of water abstracted monitored: Ground water	Q monitored / Q abstracted in %	NA	NA	NA
9.2.3	% of water abstracted monitored: External Sources (Bulk purchase)	Q monitored ow n / Q purchased in %	NA	NA	NA
9.2.6	Water compliance quality for formal schemes? (1: daily, 2: weekly, 3: monthly, 4: annually, 5: never)	frequency	Monthly	Monthly	Monthly
9.2.7	Water compliance 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 (Compliance)?	yes/no	Yes	Yes	Yes
9.3	Water Quality				
	Is there a water safety 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 %	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 C.4.1.12 : Wastewater Quality Monitoring Overview from WSDP Guide Framework Perspective					
WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0	Year - 1	Year - 2
			FY2024/25	FY2023/24	FY2022/23
5.3.1	Monitoring and Sample Failure				
5.3.1.1	Compliance Monitoring: % of tests performed as required by general limits /special limits/ license requirements (Average % over previous 12 months)	Annual %	68%	69%	97%
5.3.1.2	Operational: % of tests performed as required by general limits /special limits/ license requirements (Average % over previous 12 months)	Annual %	Not captured on IRIS and recorded by Process Controllers at each of the WWTW		
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 (Compliance)?	yes/no	Yes	Yes	Yes
9.3	Water Quality				
	Is there a wastewater risk abatement plan in place?	yes/no	Yes	Yes	No
9.3.2	Reporting on quality of water returned to the resource: urban	yes/total WWTW in %	100%	100%	100%
9.3.3	Reporting on 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

DWS's Blue Drop Process

The 2025 Blue Drop PAT results are not yet available. DWS's previous completed Blue Drop Assessment process for the WSAs was in 2023. Blue drop status is awarded to those towns that comply with 95% criteria on drinking water quality management. The blue drop performance of Langeberg Municipality was summarised as follows in the DWS's 2023 Blue Drop Report.

Table C.4.1.13: Blue Drop Performance of the Municipality (DWS's 2023 Blue Drop Report)	
Municipal Blue Drop Score	2011 – 32.39%, 2012 – 51.62%, 2014 – 72.30% and 2023 – 44.67%
Introductions: Langeberg Municipality provides potable water to about 119 962 people, through five water supply systems. Langeberg LM is responsible for 100% of the overall water delivery. As shown in the table, the five systems abstract water from the Breede River, via canal schemes and storage dams in some cases and distribute the water to the consumers. Regulator's Comments: The Langeberg team showed appreciation for the Blue Drop audit process by recognising the value of the audit in assisting with the optimisation of their operational efficiency and accountability. Regrettably, the lack of evidence for the criteria pertaining to support functions undermined the effort shown by the operations team in the audit preparation. Noticeably, the Langeberg Local Municipality's performance is continuing a downward trend placing it in a critical risk area. The decline is evident in all key performance areas namely water quality compliance, risk management, capacity management, technical and financial management. Upon close examination, the team identified several underlying issues that have contributed to the regression in performance. These include, among others, a lack of proper maintenance planning and scheduling, inadequate operational and compliance monitoring, and insufficient measures to mitigate potential risks. Moreover, the team observed that the WSI lacks internal scientific capacity which is critical in overseeing the implementation of the operational and compliance monitoring and Water Safety Planning process. Although the water safety planning process was initiated in 2014, the plan lacked proper review and implementation. The gap in implementation became apparent during the Ashton site inspection when the plant operation was disrupted by loadshedding without any mitigation measures put in place. In view of the above, the Langeberg team is encouraged to review and implement the water safety planning process taking into account the findings and recommendations of the full SANS 241 analysis report and technical assessment documents such as process audits, reticulation inspection reports, etc. The team should ensure effective integration of the maintenance plans and asset register to achieve adequate asset management and maintenance. This will enable the team to better prioritise work efforts, reduce costs associated with unplanned downtime and maximise the value of the assets over time. Furthermore, the WSI should establish a reliable supply chain for critical spares, equipment, treatment consumables and chemicals to minimise operation disruption. The Langeberg team is applauded for keeping and maintaining the flow records. However, the audit team acknowledged with regret the uncertainty surrounding the accuracy and interpretation of flow data due to insufficient evidence regarding meter calibration and updated flow calculations. The WSI is advised to adhere to best practices by maintaining a consistent determination of the water balance for all supply systems and ensuring the accuracy of flow meters. In addition, application for site-specific water use authorisations and effective resource allocation including the registration of process controllers on IRIS, is of critical importance in ensuring regulatory compliance while optimising capacity management and compliance monitoring. Several capital projects are planned to improve asset condition and operational efficiency. Blue Drop Findings: • The registration of process controllers and supervisors is incomplete on IRIS and therefore does not comply with either Regulation 2834 or draft Regulation 813. • There is no mechanical term contract in place despite not having capacity internally. The WSI could not produce evidence of mechanical maintenance. • The WSI does not have qualified scientists internally to oversee the implementation of the Operational and Compliance monitoring programme as well as the water. • Safety Planning process. • The Water Safety Plan was developed in 2014 and has not been reviewed in the past three years. The plan provided was in draft format and not approved. • The compliance monitoring programme is not in place; however, minimum compliance monitoring does take place. • Incident Management Protocol is in place with alert levels, but not implemented. The WSI has good incident register templates that are merely utilised for maintenance entries.	

Table C.4.1.13: Blue Drop Performance of the Municipality (DWS's 2023 Blue Drop Report)

- System-specific Cost Determination is done, however, lacks a detailed breakdown of cost drivers except for maintenance cost. The calculation is done per design capacity and not cubic meter treated.
- The 2021/22 Budget information was not uploaded, including CAPEX for the network, treatment and distribution despite the information having been presented during the main audit.
- Proof of approved contract for maintenance, spares, chemicals, and treatment consumables not provided. The flow meters are not calibrated; only lab instruments are.
- No reticulation inspection was conducted during the audit period to account for the water losses and network condition.
- Neither the Asset Register nor maintenance plans were provided.

The Department has noted that the municipality has maintained all water supply systems within the low risks and hopefully the municipality will consider the findings identified above and take the necessary corrective measures to improve their Blue Drop performance in the next assessment cycle.

Technical Site Assessment:

The Ashton WTW was inspected to assess the condition and functionality of the infrastructure and verify the Blue Drop audit findings. The plant received a technical site assessment score of 70% with a VROOM estimated cost of R4 286 700 required to restore the system to full functionality. The overall impression is positive, although occupational health and safety can be improved.

Performance Area		Robertson	Ashton	Bonnievale	McGregor	Montagu
Bulk/WSP		-	-	-	-	-
Capacity Management	15%	34.00%	56.00%	46.00%	36.00%	46.00%
DWQ Risk Management	20%	35.50%	35.50%	35.50%	35.50%	35.50%
Financial Management	10%	17.50%	7.50%	17.50%	7.5%	17.50%
Technical Management	20%	24.50%	16.50%	16.50%	16.50%	24.50%
DWQ Compliance	35%	69.00%	48.00%	84.00%	78.00%	66.00%
Bonus	10%	0.00%	0.00%	0.00%	0.00%	0.00%
Penalties	10%	0.00%	25.00%	0.00%	0.00%	10.00%
Disqualifiers		None	None	None	None	None
Blue Drop Score (2023)	%	43.00% (Very Poor)	33.85% (Very Poor)	48.45% (Very Poor)	43.85% (Very Poor)	42.75% (Very Poor)
Blue Drop Score (2014)	%	64.06%	78.05%	69.99%	71.73%	64.06%
Blue Drop Score (2012)	%	43.31%	48.99%	48.31%	58.26%	43.31%
Blue Drop Score (2011)	%	29.48%	33.50%	33.50%	48.50%	29.48%
System Design Capacity	kl/d	10 800	11 910	20 000	2 000	6 000
System Available Capacity	kl/d	10 800	11 910	20 000	2 000	6 000
System Input Value	kl/d	7 332	5 242	20 000	1 017	2 993
Capacity utilization	%	67.89%	44.02%	NI	50.87%	49.88%
Average Daily Consumption	l/p/d	246	393	2 200	326	197
Resource Abstracted From		Breede River, Hoops River Irrigation Scheme, Dassieshoek and Kooskok Dams	Breede River	Breede River	Breede River	Breede River

Performance Area		Robertson	Ashton	Bonnievale	McGregor	Montagu
Microbiological Compliance	%	97.50%	92.19%	99.99%	99.99%	95.45%
Chemical Health Compliance	%	99.99%	99.99%	99.99%	99.99%	99.99%
Risk Defined Compliance	%	88.47%	93.81%	95.80%	93.95%	95.85%
VROOM	Rand	-	R4 287 600	-	-	-
BDRR 2023	%	33.48% (Low)	32.98% (Low)	42.61% (Low)	22.64% (Low)	31.99% (Low)
BDRR 2022	%	26.80% (Low)	19.20% (Low)	19.70% (Low)	21.40% (Low)	34.80% (Low)

The average daily residential consumption (l/p/d) for the last three financial years is summarised in the table below.

Table C.4.1.14: Average residential daily consumption (l/p/d) for the last three financial years.									
Distribution System	2024/2025			2023/2024			2022/2023		
	Estimated Permanent Population	Average Daily Billed Metered Residential Consumption (kl)	Average Daily Residential Consumption (l/p/d)	Estimated Permanent Population	Average Daily Billed Metered Residential Consumption (kl)	Average Daily Residential Consumption (l/p/d)	Estimated Permanent Population	Average Daily Billed Metered Residential Consumption (kl)	Average Daily Residential Consumption (l/p/d)
Robertson	38 204	5 250	137	37 272	4 741	127	36 363	4 288	118
McGregor	4 308	685	159	4 203	653	155	4 100	615	150
Bonnievale	12 533	1 527	122	12 228	1 189	97	11 929	1 297	109
Ashton	17 237	2 165	126	16 899	1 458	86	16 568	1 767	107
Montagu	23 735	1 665	70	22 932	1 824	80	22 157	1 721	78
All Systems	96 017	11 292	118	93 534	9 865	105	91 117	9 688	106

Note: Billed metered residential consumptions for 2022/2023 and 2023/2024 were estimated as the same percentage as the residential consumption over the total billed metered consumption for the 2024/2025 financial year.

It can be noted from the above table that the average daily residential water usage per person (residential consumption after household meter, which exclude leakages on the network and the other water usages, for example industrial and commercial usage) is low for all five areas and that the potable water is used conservatively by the residential consumers.

DWS's Green Drop Process

The 2025 Green Drop Assessment results are not yet available. DWS's previous complete Green Drop assessment for the WSAs was in 2021 and the results were received early in 2022. Green drop status was awarded to those WSAs that comply with 90% criteria on key selected indicators on wastewater quality management. The green drop performance of Langeberg Municipality was summarised as follows in the DWS's 2022 Green Drop Report.

Table C.4.1.15: Green Drop Performance of the Langeberg Municipality (DWS's 2022 Green Drop Report)	
Average Green Drop Score	2009 – 50.0%, 2011 – 43.0%, 2013 – 52.0%, 2021 – 27.0%
Regulator's Comment: Langeberg Local Municipality impressed with a good representation of senior officials, which resonates well in terms of firm management commitment. Regrettably, preparations for the audit were not on par with the Inspectorate expectations, and IRIS uploads or hard copies of evidence were not fully available. The Green Drop Score of 27% places the municipality in the unappealing position of critical performance. The poor performance of the Robertson system contributed significantly to the overall low score. Robertson WWTW is due for upgrade and plans are in place, which is commendable. However, new infrastructure alone will not bring about the desired change – plans, systems and procedures needs to be developed and implemented to ensure the upgraded plant meets compliance and good practice standards. Langeberg follows a long history of average to sub-standard performance, and the 2023 audit cycle will bring a new opportunity to rectify this situation. Municipal leadership will need to pull all stops to ensure that the municipality raise its performance by addressing each of the Green Drop Standards outlined in this report. The Regulator takes a balanced view by observing the low and medium risk CRR positions of 4 of the 5 plants with the exception of Robertson in a high-risk position, notable as result of the reasonable to good effluent quality compliance, with McGregor meeting excellence standards, with Ashton and Bonnievale also doing very well. It is thus evident that the effluent quality is already scoring high on the Regulator's scoresheet, but the administration need to match this performance. The municipal sub-standard scores thereby does not relate to major root cause failures but is rather one where a large number of small changes will affect a significant improvement in the future Green Drop scores. DWS encourages leadership to focus on these incremental improvements and to target a Green Drop score of >50% in the 2023 audit. <u>Green Drop findings:</u> 1. The Supervisors and majority of Process Controllers are unregistered and do not comply with Reg. 2834 or draft Reg. 813. 2. No engineer or scientific competencies could be verified via qualification certificates. 3. Electrical maintenance is done inhouse while mechanical maintenance is outsourced - maintenance schedules and logbooks are lacking for all systems. 4. Raw and final monitoring is done by external laboratory, with on-site operational monitoring lacking. 5. Financial information was provided, however, lacking ring-fenced budgets, expenditure records, and actual cost determinations with sufficient cost drivers. 6. Flow figures were provided, noting that all flowmeters were either out of order or erroneous for a large part of the year under review. Flow data is not interpreted or used to influence operations and need to be addressed via training and/or appointment of qualified operational/supervisory staff. 7. Plant & Process Audits, Sewer Inspections and Asset Registers are absent from the technical management portfolio of evidence. Daily sewer network inspections are in place, but no proof provided via checklists, photos, or rating systems. 8. Most of the treatment plants lacks water use authorisations to guide the frequency, determinants and associated limits that would render a plant compliant at discharge of effluent. 9. Based on an evaluation against general limits, the plants are predominantly non-compliant, with the exception of the McGregor Ponds which has low (irrigation) limits. 10. Zero of the five (5) systems had capital plans to address the defects identified, most concerning of all is the hydraulic overload of the Robertson WWTWs. However, no evidence of business plans of funding sources could be provided.	

GREEN DROP REPORT CARD						
Key Performance Area	Weight	Ashton	Bonnievale	McGregor	Robertson	Montagu
A. Capacity Management	15%	36.0%	32.0%	15.0%	32.0%	22.0%
B. Environmental Management	15%	55.0%	55.0%	55.0%	54.5%	55.0%
C. Financial Management	20%	19.0%	19.0%	23.8%	19.0%	19.0%
D. Technical Management	20%	11.0%	11.0%	5.9%	11.0%	11.0%
E Effluent & Sludge Compliance	30%	61.1%	61.0%	88.8%	15.0%	61.0%
F. Bonus		0.0%	0.0%	0.0%	0.0%	0.0%
G. Penalties		0.0%	-25.0%	0.0%	-62.5%	0.0%
H. Disqualifiers		None	None	None	None	None
Green Drop Score (2021)		36% (Poor)	32% (Poor)	41% (Poor)	12% (Critical)	34% (Poor)
2013 Green Drop Score		47%	65%	69%	47%	50%
2011 Green Drop Score		40%	50%	51%	37%	44%
2009 Green Drop Score		49%	49%	52%	49%	49%
System Design Capacity (Ml/d)		3.100	2.500	0.300	4.300	3.500
Design Capacity Utilisation (%)		42%	31%	77%	125%	63%
Resource Discharged into		Sarabs River to Cogmanskloof to Breede River	Breede River	Irrigated	Breede River	Kingna River
Microbiological Compliance (%)		75%	42%	92%	8%	8%
Chemical Compliance (%)		81%	88%	100%	67%	67%
Physical Compliance (%)		92%	92%	100%	67%	67%
Wastewater Risk Rating (CRR% of CRRmax)						
2011 CRR (%)		52.9% (Medium Risk)	47.1% (Low Risk)	58.8% (Medium Risk)	64.7% (Medium Risk)	58.8% (Medium Risk)
2013 CRR (%)		64.7% (Medium Risk)	29.4% (Low Risk)	35.3% (Low Risk)	74.4% (High Risk)	58.8% (Medium Risk)
2021 CRR (%)		58.8% (Medium Risk)	52.9% (Medium Risk)	41.2% (Low Risk)	70.6% (High Risk)	47.1% (Low Risk)

Langeberg Municipality also received their 2023 Green Drop Risk Ratings, as calculated from the 2023 assessment done by the DWS.

Table C.4.1.16: Green Drop Risk Rating of the Langeberg Municipality (DWS's 2023 Green Drop Progress Report)

CRR 2023 (%CRR/CRRmax)		Municipality 78.1% (High Risk)					
Introduction: Langeberg Municipality is responsible for the management and operation of five (5) WWTWs of different sizes ranging from 400 kl/day to 3500 kl/day.							
Regulator's Comments: The design information (Criteria A) of several of the sites requires confirmation as there are differences reported on the MIS, IRIS and on the registration forms. This includes Ashton and Robertson WWTWs. The operational capacity of these sites (Criteria B) is reported however no confirmatory flow data is loaded onto the IRIS. From the reported flows the Ashton, McGregor Montagu and Robertson WWTWs are reported to be nearing or over the hydraulic capacity of the WWTWs. Flow measurement data is crucial to determine the operational capacity of the WWTWs. The WSA must ensure inflow meters are installed, daily flow readings are recorded and annual meter calibration is conducted to determine the annual operational capacity of all the WWTWs. Therefore, the CRR scores of these sites where operational capacity is reported to be close to the hydraulic design capacity of the plant is high and an increase in the CRR scores is noted for all sites when compared to 2022.							
None of the sites have information regarding the availability of their WUL and this is a requirement for ensuring the accuracy of the effluent limits and therefore compliance of the final effluent. The WSA is encouraged to apply for WUL for all sites. The quality of the final effluent from all sites discharged to the environment is poor especially the microbiological compliance, which will impact the health of the environment and users downstream. There is also a serious and critical risk to the health of all the sites due to a lack of qualified and competent staff that can operate and manage the WWTWs to ensure that the final effluent complies with the limits required. In addition, there are very few qualified maintenance staff; it is therefore not a surprise that the final effluent discharged from these sites is causing a serious and significant health risk to all downstream users.							
The WSA has not provided a W ₂ RAP, GDIP or CAP for this assessment. No information concerning any risk management or mitigation was provided by the WSA. No information on capital projects for refurbishment to be undertaken was available. There does not appear to be any management strategy in place to improve wastewater effluent compliance.							
The WSA must adopt and implement the risk -based approach of the W ₂ RAP to address all high risks which negatively impact on the final effluent discharged into the environment. A GDIP should be developed to identify the shortcomings for all GD criteria and allocate responsibility, budget and time frame to address the gaps. There is a critical shortage of qualified and competent operational and maintenance staff and the WSA is strongly encouraged to fill these positions with qualified staff to start to take control and improve upon the current state of wastewater treatment and management.							
Risk Assessment Areas		Weight	Ashton	Bonnievale	McGregor	Robertson	Montagu
Class of Works			C: Approved	D: Approved	E: Approved	B: Approved	C: Approved
Treatment Technology			Activated Sludge	Oxidation ponds	Oxidation ponds	Oxidation ponds	Activated Sludge
A: Total Design Capacity	Kl/d		2 500	2 807	300	4 200	3 500
B: Operational Capacity (% inflow / design)	%		100.0%	67.7%	93.3%	102.4%	100.0%
C: Effluent Quality Non-compliance	#		6	7	1	6	5
% Microbiological Compliance	%		33.3%	16.7%	0.0%	0.0%	25.0%
% Physical Compliance	%		66.7%	77.8%	NMR	47.2%	91.7%
% Chemical Compliance	%		52.8%	61.1%	NMR	36.1%	80.6%
D: Technical Skills Compliance	%		0.0%	11.1%	0.0%	0.0%	0.0%
Process Controller Compliance	%		0%	0%	0%	0%	0%
Supervisor Compliance	%		0.0%	0.0%	0.0%	0.0%	0.0%
Maintenance Team Compliance	%		0.0%	33.3%	0.0%	0.0%	0.0%
CRR (2023)	%		76.5% (High Risk)	82.4% (High Risk)	80.0% (High Risk)	82.4% (High)	70.6% (High Risk)

Table C.4.1.16: Green Drop Risk Rating of the Langeberg Municipality (DWS's 2023 Green Drop Progress Report)						
CRR (2022)	%	58.8% (Medium Risk)	52.9% (Medium Risk)	41.2% (Low Risk)	60.5% (Medium Risk)	47.1% (Low Risk)
CRR (2013)	%	64.7% (Medium Risk)	29.4% (Low Risk)	35.3% (Low Risk)	74.7% (High Risk)	58.8% (Medium Risk)
CRR (2011)	%	52.9% (Medium Risk)	47.1% (Low Risk)	58.8% (Medium Risk)	64.7% (Medium Risk)	58.8% (Medium Risk)
W ₂ RAP Status: 2022 Green Drop Report		No Proof	No Proof	No Proof	No Proof	No Proof
W ₂ RAP Status: 2023 Green Drop PAT		No Proof	No Proof	No Proof	No Proof	No Proof
Capital & Refurbishment Projects (Rand)		NI	NI	NI	NI	NI
Description of Capital & Refurbishment Projects		NI	NI	NI	NI	NI
2022 GD Score	%	36.0%	32.0%	41.0%	12.0%	34.0%
GD Improvement Plan (GDIP)	Y/N	No	No	No	No	No
Corrective Action Plan (CAP)	Y/N	No	No	No	No	No

C.4.2. Water Quality Compliance

The table below gives an overview of Langeberg Municipality's water quality compliance, as taken from the DWS IRIS.

Table C.4.2.1: Overview of Water Quality Compliance																				
WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0						Year - 1						Year - 2					
			FY2024/25						FY2023/24						FY2022/23					
			MAH	CAH	CCH	CNA	O	D	MAH	CAH	CCH	CNA	O	D	MAH	CAH	CCH	CNA	O	D
Results from Integrated Regulatory Information System																				
n/a	Analysis compliance	Total	294	70	500	824	1316	366	299	70	492	828	1337	356	290	53	482	825	1313	368
n/a		Nr Failures	9	0	0	6	130	281	11	0	1	18	205	264	50	0	0	14	212	294
n/a		Compliance %	97%	100%	100%	99%	90%	23%	96%	100%	100%	98%	85%	26%	83%	100%	100%	98%	84%	20%
n/a	Samples frequency	Total	254	20	252	252	254	252	259	20	252	252	266	252	260	15	260	254	282	260
n/a		Nr Failures	60	20	60	60	61	60	61	20	60	60	63	60	64	15	61	60	68	61
n/a		Compliance %	76%	0%	76%	76%	76%	76%	76%	0%	76%	76%	76%	76%	75%	0%	77%	76%	76%	77%
n/a	Sites compliance	Total	251	20	252	252	252	252	252	20	252	252	252	252	254	15	254	254	254	254
n/a		Nr Failures	59	20	60	60	60	60	60	20	60	60	60	60	60	15	60	60	60	60
n/a		Compliance %	76%	0%	76%	76%	76%	76%	76%	0%	76%	76%	76%	76%	76%	0%	76%	76%	76%	76%
6.3 Water Supply and Quality																				
6.3.6	Blue Drop Status	last year certified by DWS	2026 Blue Drop Assessment still to be done						Waiting for results from 2025 Blue Drop PAT						2023 Blue Drop Assessment					
9.3 Water Quality																				
9.3.10	% Time (days) within SANS 241 standards per year	Average of analysis compliance %	85%						84%						81%					

Legend

MAH: Microbiological Acute Health; CAH: Chemical Acute Health; CCH: Chemical Chronic Health; CNA: Chemical Non Health Aesthetic; O: Operational; D: Disinfectant

The Table below gives an overview of the number of compliance samples taken over the period July to June for the last three financial years for the various water distribution networks.

Table C.4.2.2: Number of water quality compliance samples taken throughout the various water distribution systems during the last three financial years																
Number of Sampling points within the distribution system (WTW Included)	6			4			4			4			4			4
Parameter Sampled	Robertson			McGregor			Bonnievale			Ashton			Montagu			
	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	
pH (at 25°C)	96	96	84	49	48	44	84	83	70	72	71	62	84	83	71	
Colour	56	56	54	24	24	26	60	58	52	48	47	44	61	59	53	
Conductivity	12	12	11	12	12	11	12	12	11	12	11	11	12	11	11	
Total Dissolved Solids	72	72	66	49	48	41	48	49	43	48	47	44	47	47	44	
Turbidity	72	72	66	49	48	41	48	49	43	48	47	44	47	47	44	
Free Chlorine	96	96	86	49	48	44	84	83	74	72	71	62	84	83	71	
E.Coli	96	96	113	50	48	46	96	99	99	72	76	71	85	94	79	
Heterotrophic Plate Count	96	96	85	49	48	44	84	85	71	72	72	63	84	91	71	
Total Coliform Count	96	100	118	54	50	51	95	111	114	72	87	74	88	115	99	
Somatic Coliphages	96	96	84	49	48	44	84	83	70	72	71	61	84	83	71	
Aluminium (as Al)	12	12	11	12	12	11	12	12	11	12	11	12	12	11	11	
Iron (as Fe)	12	12	11	12	12	11	12	12	11	12	11	12	12	11	11	
Monochloramine	12	12	11	12	12	11	12	12	11	12	11	10	12	10	11	
Total Chlorine	11	11	8	11	11	8	11	11	10	11	11	11	11	11	8	
Giardia Species	4	4	3	4	4	3	4	3	3	4	3	3	4	3	3	
Cryptosporidium Species	4	4	3	4	4	3	4	3	3	4	3	3	4	3	3	
Manganese (as Mn)	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Ammonia Nitrogen (as N)	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Chloride (as Cl)	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Fluoride (as F)	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Nitrate and Nitrite Nitrogen	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Nitrate as N	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Nitrite as N	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Combined Nitrate plus Nitrite	4	4	3	4	4	3	4	4	3	4	3	3	4	3	3	
Microcystins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sulphate (as SO42-)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	
Sodium (as Na)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	

Number of Sampling points within the distribution system (WTW Included)	6			4			4			4			4		
Parameter Sampled	Robertson			McGregor			Bonnievale			Ashton			Montagu		
	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23	24/25	23/24	22/23
Zinc (as Zn)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Antimony (as Sb)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Arsenic (as As)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Barium	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Boron	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Cadmium (as Cd)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Chromium (as Cr)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Copper (as Cu)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Cyanide	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Lead (as Pb)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Mercury (as Hg)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Nickel (as Ni)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Selenium (as Se)	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Uranium	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Total Organic Carbon	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Phenols	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Bromodichloromethane	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Bromoform	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Chloroform	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Dibromochloromethane	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Combined Trihalomethane	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
Total	898	902	861	544	532	486	805	820	743	698	674	611	786	786	708

The water quality performance indicators for all the water distribution systems in Langeberg Municipality was “Excellent” for the 2024/2025 financial year, except for Acute Health Microbiological for the Montagu and Bonnievale systems and Operational Efficiency for the Robertson, McGregor and Bonnievale systems (According to the SANS 241:2015 classification). The water quality compliance sample results for the 2022/2023, 2023/2024 and 2024/2025 financial years are included in Annexure D for each of the water distribution systems. The overall percentage of compliance of the water quality samples taken over the period July to June for the last three financial years area summarised in the table below per water distribution system.

Performance Indicator	Performance Indicator categorised as unacceptable Yes / No (Table 4 of SANS 241-2:2015)			% Sample Compliance according to SANS 241-2015 Limits		
	24/25	23/24	22/23	24/25	23/24	22/23
Robertson						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	No (Excellent)	Yes (Unacceptable)	100.0%	100.0%	67.2%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.2%	94.6%	99.5%
Operational Efficiency	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	89.3%	83.1%	77.7%
McGregor						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	No (Excellent)	No (Good)	98.3%	100.0%	96.2%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	97.9%
Operational Efficiency	Yes (Unacceptable)	No (Good)	No (Good)	87.0%	90.6%	90.2%
Ashton						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	No (Excellent)	Yes (Unacceptable)	Yes (Unacceptable)	98.8%	90.2%	80.5%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	98.9%

Table C4.2.3: Percentage compliance of the water quality samples for the last three financial years						
Performance Indicator	Performance Indicator categorised as unacceptable Yes / No (Table 4 of SANS 241-2:2015)			% Sample Compliance according to SANS 241-2015 Limits		
	24/25	23/24	22/23	24/25	23/24	22/23
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.5%	98.8%	98.8%
Operational Efficiency	No (Excellent)	Yes (Unacceptable)	Yes (Unacceptable)	97.4%	87.5%	83.5%
Montagu						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	94.6%	94.0%	85.9%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	99.1%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.5%	97.8%	98.9%
Operational Efficiency	No (Excellent)	No (Good)	Yes (Unacceptable)	95.7%	90.0%	84.2%
Bonnievale						
Acute Health Chemical	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Acute Health Microbiological	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	86.5%	79.0%	69.5%
Chronic Health	No (Excellent)	No (Excellent)	No (Excellent)	100.0%	100.0%	100.0%
Aesthetic	No (Excellent)	No (Excellent)	No (Excellent)	99.0%	97.4%	96.0%
Operational Efficiency	Yes (Unacceptable)	Yes (Unacceptable)	Yes (Unacceptable)	89.2%	79.4%	75.5%

The table below gives an overview of the four categories under which the risks posed by micro-organism, physical or aesthetic property or chemical substance of potable water is normally classified.

Table C.4.2.4: Four categories under which the risks posed by micro-organism, physical or aesthetic property or chemical substance of potable water is normally classified	
Category	Risk
Acute Health	Determinand that poses an immediate unacceptable health risk if present at concentration values exceeding the numerical limits specified in this part of SANS 241.
Aesthetic	Determinand that taints water with respect to taste, odour and colour and that does not pose an unacceptable health risk if present at concentration values exceeding the numerical limits specified in SANS 241.
Chronic Health	Determinand that poses an unacceptable health risk if ingested over an extended period if present at concentration values exceeding the numerical limits specified in SANS 241.
Operational	Determinand that is essential for assessing the efficient operation of treatment systems and risks from infrastructure

The graph below indicates the annual number of water quality complaints received for the various towns. Only ten water quality complaints were received from the public during the 2024/2025 financial year.

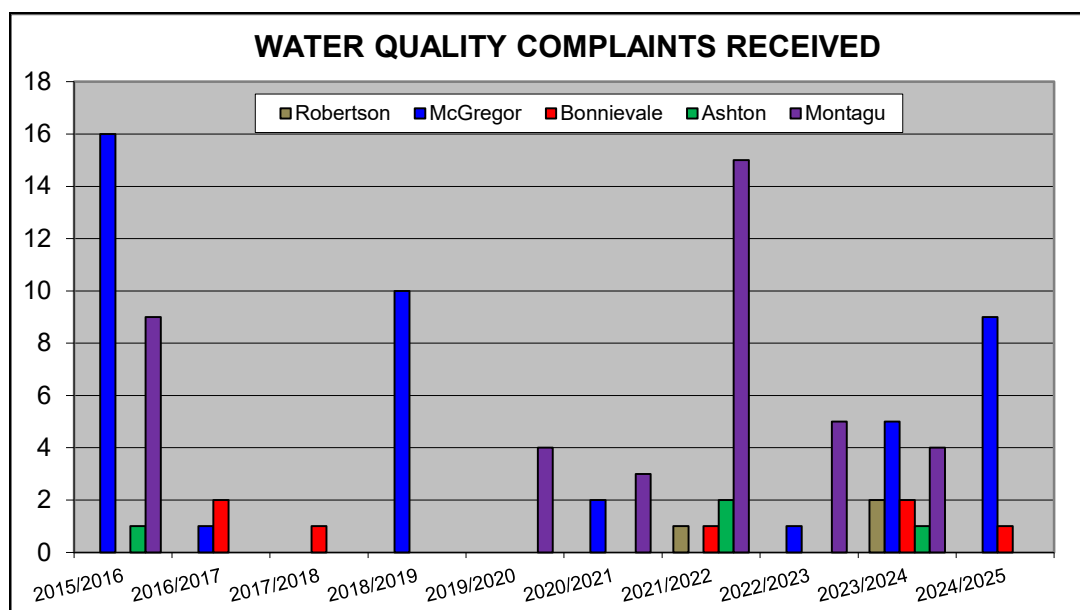


Figure C.4.2.1: Water quality complaints received for the various financial years

The table below gives an overview of Langeberg Municipality's wastewater quality compliance, as taken from the DWS IRIS.

Table C.4.2.5: Overview of Wastewater Quality Compliance														
WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0				Year-1				Year-2			
			FY2024/25				FY2023/24				FY2022/23			
			M	C	P	O	M	C	P	O	M	C	P	O
	Results from Integrated Regulatory Information System													
n/a	Regulatory compliance	Total	107	360	215	-	108	360	216	-	106	345	218	-
n/a		Nr Failures	78	103	62	-	84	119	77	-	104	231	152	-
n/a		Compliance %	27%	71%	71%	-	22%	67%	64%	-	2%	33%	30%	-
n/a	Operational compliance	Total	Not captured on IRIS, but recorded by Process Controllers at each of the WWTW											
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 %	73%	29%	29%	-	78%	33%	36%	-	98%	67%	70%	-
6.3	Water Supply and Quality													
6.4.6	Green Drop Status	last year certified by DWS	2026 Green Drop PAT still to be done				Waiting for results from 2025 Green Drop Assessment				2023 Green Drop PAT			

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

Licences were received for all five WWTWs during November 2023. The final effluent quality compliance sample results are included in Annexure D for each of the WWTWs. The overall Microbiological, Chemical and Physical compliance percentages of the final effluent samples taken over the last three financial years at the Robertson-, McGregor-, Ashton-, Montagu- and Bonnievale WWTW are summarised in the table below (Measured against the limits included in the Licences, General Limits).

Table C.4.2.6: Percentage Microbiological compliance of the compliance samples taken at the various WWTWs			
WWTW	2024/2025	2023/2024	2022/2023
Robertson	16.7%	15.4%	0.0%
McGregor	91.7%	100.0%	100.0%
Ashton	33.3%	30.8%	18.2%
Montagu	58.3%	23.1%	18.2%
Bonnievale	27.3%	16.7%	0.0%
Total	45.8%	36.5%	27.3%

Table C.4.2.7: Percentage Chemical compliance of the compliance samples taken at the various WWTWs												
WWTW	2024/2025				2023/2024				2022/2023			
	Ammonia	Nitrites & Nitrates	COD Filtered	Overall	Ammonia	Nitrites & Nitrates	COD Filtered	Overall	Ammonia	Nitrites & Nitrates	COD Filtered	Overall
Robertson	0.0%	100.0%	33.3%	44.4%	0.0%	100.0%	25.0%	41.7%	0.0%	100.0%	11.1%	38.7%
McGregor	N/A	N/A	91.7%	91.7%	N/A	N/A	100.0%	100.0%	N/A	N/A	100.0%	100.0%
Ashton	25.0%	100.0%	75.0%	66.7%	0.0%	91.7%	66.7%	52.8%	0.0%	100.0%	0.0%	35.5%
Montagu	41.7%	100.0%	91.7%	77.8%	25.0%	100.0%	75.0%	66.7%	0.0%	100.0%	88.9%	61.3%
Bonnievale	54.5%	100.0%	63.6%	72.7%	33.3%	100.0%	58.3%	63.9%	9.1%	90.9%	55.6%	51.6%
Total	29.8%	100.0%	71.2%	67.3%	14.6%	97.9%	65.0%	59.6%	2.3%	97.7%	51.1%	50.4%

Table C.4.2.8: Percentage Physical compliance of the compliance samples taken at the various WWTWs

WWTW	2024/2025				2023/2024				2022/2023			
	pH	Electrical Conductivity	Suspended Solids	Overall	pH	Electrical Conductivity	Suspended Solids	Overall	pH	Electrical Conductivity	Suspended Solids	Overall
Robertson	100.0%	0.0%	16.7%	38.9%	100.0%	0.0%	50.0%	50.0%	100.0%	18.2%	9.1%	42.4%
McGregor	100.0%	100.0%	N/A	100%	100.0%	100.0%	N/A	100.0%	100.0%	81.8%	N/A	90.9%
Ashton	100.0%	0.0%	91.7%	63.9%	100.0%	0.0%	83.3%	61.1%	100.0%	0.0%	63.6%	54.5%
Montagu	100.0%	75.0%	91.7%	88.9%	100.0%	41.7%	58.3%	66.7%	100.0%	54.5%	90.9%	81.8%
Bonnievale	100.0%	81.8%	63.6%	81.8%	100.0%	50.0%	50.0%	66.7%	100.0%	45.5%	54.5%	66.7%
Total	100.0%	50.8%	66.0%	72.7%	100.0%	38.3%	60.4%	66.7%	100.0%	40.0%	54.5%	65.6%

The Municipality needs to work towards compliance percentages of 90% for the different parameters for the WWTWs. The percentage compliance per parameter per WWTW is included in Annexure D.

C.4.3. Incident Management

Langeberg Municipality's Maintenance Team mainly performs their own repair and preventative maintenance work to the equipment and infrastructure of the Municipality, except when specialised repair work is required, in which case the work is sub-contracted to approved sub-contractors on the municipal database.

Water Safety Plans are in place for each of the WTWs and water distribution systems (June 2024). A detailed risk assessment was executed as part of the process and the existing control measures implemented by Langeberg Municipality were evaluated. Improvement / Upgrade Plans are also in place with relevant Water and Safety Management Procedures for any type of incident.

The table below gives an overview of the Medium and High Risks for the various WTWs and water distribution systems and recommended mitigation and improvement plans, as included in the Water Safety Plans.

Table C.4.3.1: Medium and High risks for the various WTWs and water distribution systems and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Robertson WTW and water reticulation network	
Inadequate supply from various sources, due to pipeline breakages.	Continue to repair any raw water pipeline breakages as soon as possible. Monitor the number of breakages on the raw water pipelines and the reasons for the failures, in order to determine if the pipelines need to be replaced. Budget for the replacement of the Siphon line.
Water quality not complying with SANS241:2015 requirements with regard to Turbidity (P/R), E.Coli (P), Total Coliform Count (N) and Aluminium (N).	Desludging of the settling tanks should be done sufficiently and regularly to prevent excessive flow build up and subsequent carry-over to the sand filters. Investigate the condition of the filter sand, implement and control effective filter backwash procedures and optimise filter run time and frequency of backwashing. Improve the chlorination operations and monitoring of the chlorine residuals in the final water. Consider the re-implementation of gas chlorination as a high priority.
McGregor WTW and water reticulation network	
Public injury / drowning: Unauthorised access to New -, Vaal and Rooi dam by the public.	Put up the necessary safety signage at the dams that swimming is not allowed and investigate ways on how the safety at the dam sites can be improved.
Water quality not complying with SANS241:2015 requirements with regard to Turbidity (P/R), E.Coli (P), Total Coliform Count (N) and Aluminium (N).	Investigate the condition of the filter sand, implement and control effective filter backwash procedures and optimise filter run time and frequency of backwashing. Improve the chlorination operations and monitoring of the chlorine residuals in the final water. Consider the re-implementation of gas chlorination as a high priority.
Water Quality failure: Inadequate process control due to poor condition of weirs of two sedimentation tanks.	Refurbishment of weir plates of both sedimentation tanks
Water quality failures, due to capacity of WTW that is inadequate.	Capacity of WTW needs to be increased in order to meet current and future water treatment requirements.

Table C.4.3.1: Medium and High risks for the various WTWs and water distribution systems and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Bonnievale WTW and water reticulation network	
Inadequate supply (Water Shortages) due to falling water levels due to drought or drawdown of water bodies.	Engage with BOCMA to ensure a new WUL is received for an increased allocation from Brandvlei dam.
Water quality not complying with SANS241:2015 requirements with regard to Turbidity (P/R), E.Coli (P), Total Coliform Count (N) and Aluminium (N).	Flow distribution to the different sedimentation tanks should be optimised to ensure that some of the tanks are not overloaded. Desludging of the settling tanks should be done sufficiently and regularly to prevent excessive flow build up and subsequent carry over to the sand filters. Investigate the condition of the filter sand, implement and control effective filter backwash procedures and optimise filter run time and frequency of backwashing. Improve the chlorination operations and monitoring of the chlorine residuals in the final water. Consider the re-implementation of gas chlorination as a high priority.
Possible human injury when PCs fall off the pressure filters when they need to control the valves (No walkway).	Construct walkway above the pressure filters for the PCs to walk on.
Water quality failures, due to capacity of WTW that is inadequate.	Capacity of WTW needs to be increased in order to meet current and future water treatment requirements.
Ashton WTW and water reticulation network	
Inadequate supply (Water Shortages) due to falling water levels due to drought or drawdown of water bodies.	Engage with BOCMA to ensure a new WUL is received for an increased allocation from Brandvlei dam.
Poor raw water quality: High sedimentation levels in water after major rain events.	Investigate pre-sedimentation options in order to reduce sedimentation levels to acceptable levels before the treatment plant.
Water quality not complying with SANS241:2015 requirements with regard to Turbidity (P/R), E.Coli (P), Total Coliform Count (N) and Aluminium (N).	Flow distribution to the different sedimentation tanks should be optimised to ensure that some of the tanks are not overloaded. Desludging of the settling tanks should be done sufficiently and regularly to prevent excessive flow build up and subsequent carry over to the sand filters. Investigate the condition of the filter sand, implement and control effective filter backwash procedures and optimise filter run time and frequency of backwashing. Improve the chlorination operations and monitoring of the chlorine residuals in the final water. Consider the re-implementation of gas chlorination as a high priority.
Montagu WTW and water reticulation network	
Inadequate supply (Water Shortages) due to falling water levels due to drought or drawdown of water bodies. Keurkloof not in use (no pipeline network available).	Engage with BOCMA to ensure a new WUL is received for an increased allocation from Brandvlei dam.
Poor raw water quality: High sedimentation levels in water after major rain events.	Investigate pre-sedimentation options in order to reduce sedimentation levels to acceptable levels before the treatment plant.
Water quality not complying with SANS241:2015 requirements with regard to Turbidity (P/R) and Total Coliform Count (N).	The specifications of the direct upflow filters need to be confirmed in order for the filtration rates to be calculated and the filter operations assessed. Improve the chlorination operations and monitoring of the chlorine residuals in the final water. Consider the re-implementation of gas chlorination as a high priority.
All WTWs and water reticulation networks	
Collapse of infrastructure, due to insufficient personnel for operation and maintenance.	Ensure all required posts are budgeted for and that the vacancy rate for water services personnel (Approved Posts) is less than 10%.
Collapse of infrastructure, due to insufficient budget allocation towards O&M.	Allocate a budget of approximately 2% of the CRC of the water infrastructure per annum towards the replacement of the existing old infrastructure and between 1% and 2% towards the operation and maintenance of the existing water infrastructure.
Shortage of chlorine gas.	Investigate alternative disinfection processes for "back-up" in case of an emergency.
Injury to operational personnel or PCs due to non-compliance with safety requirements at chlorine facility.	Ensure a Water Safety Audit is done at least once every two years at all chlorine dosing facilities in order to monitor compliance with safety requirements.
Water quality failures, due to number of PCs at WTW and their qualifications (Classifications) inadequate (Shortage of Process Controllers).	Ensure that the number of PCs and their Classifications comply with the legal requirements for the specific Class of WTW.
Theft, vandalism or sabotage may pollute the water with chemicals or microbes or damage equipment and infrastructure (Reservoirs).	Ensure all reservoirs are fenced and locked and that all covers are locked. All reservoirs to be inspected at least weekly.

Table C.4.3.1: Medium and High risks for the various WTWs and water distribution systems and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Vandalism or sabotage may pollute the water with chemicals or microbes or damage equipment and infrastructure. Unauthorised operations of the network.	Ensure adequate security measures are in place to protect all relevant water infrastructure from possible vandalism
Water standing at access points can attract birds and animals raising vector and disease concerns.	Regular inspection of the status of communal services in informal areas by the operational personnel. Proper maintenance of communal facilities
Vandalism of community standpipes can result in water standing at access points, which can result in the spreading of diseases.	Regular inspection of the status of communal services in informal areas by the operational personnel. Proper maintenance of communal facilities
Containers used by residents for the collection of water from communal standpipes are not properly disinfected, which can cause contamination of the water.	Provide educational material to persons staying in informal areas. Proper maintenance of communal facilities

W₂RAPs for the various WWTWs and sewer drainage networks are also in place (August 2024). The W₂RAP is an all-inclusive risk analysis tool by which risks associated with the management of collection, treatment and disposal of wastewater, are identified and rated (quantified). The identified risks can then be managed according to its potential impacts on the receiving environment / community / resource.

The table below gives an overview of the Medium and High Risks for the various WWTWs and sewer drainage networks and recommended mitigation and improvement plans, as included in the W₂RAPs.

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Robertson WWTW and sewer drainage network	
Increased flows at WWTW, due to stormwater ingress into the sewer system from residential households and commercial and industrial properties.	Ensure daily rainfall records are kept for each of the plants. Inspection of drainage systems of private houses and commercial and industrial properties (No illegal rainwater or swimming pool connections to the sewer system). Investigate other sources of infiltration such as large parking areas.
Hazardous chemicals entering the plant due to quality of industrial effluent discharge by industrial consumers and tanker discharge not being monitored adequately to ensure compliance with the limits.	Monitor the quality of industrial effluent discharged by Industrial Consumers and ensure enforcement of bylaws w.r.t. the quality of effluent discharged.
	Identify the industries that contribute to increased loading or undesirable compounds in inflow to the WWTW. Compile report within one year and provide report to BOCMA.
	Put agreements / contracts in place with all industrial consumers discharging into the Municipality's sewer system, which include quality standards and monitoring procedures.
	Promote public awareness with industrial and commercial consumers of the impact of the quality of effluent discharged into the Municipality's sewer system.
Staff working with chlorine requires refresher training in order to ensure that emergency procedures and action plans are followed during an incident.	Put a system in place to monitor the quality of effluent discharged by tankers at the works.
Inadequate chlorine signage at treatment facilities.	Chlorine Safety Audit to be done, which assess training provided to PCs.
Building construction, loading and off-loading equipment and chlorine storage facilities not on standard.	Chlorine Safety Audit to be done, which assess chlorine signage at treatment facility.
Dosing equipment and safety equipment not on standard. Staff safety is compromised as they do not have enough PPE.	Chlorine Safety Audit to be done, which assess building construction, loading and off-loading equipment and chlorine storage facilities.
Human accidents due to inadequate lighting on site.	Chlorine Safety Audit to be done, which assess dosing and safety equipment.
Human accidents due to inadequate fencing and safety	Ensure that all lights at the plant work and install additional lighting to ensure adequate lighting for the plant.
	Install adequate security fencing around the WWTW site and erect the

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
signage.	necessary safety signage.
Staff health and safety compromised, since there are not adequate safety procedures in place (SOPs).	SOPs to be drafted for all unit processes, which also include safety procedures.
Staff health and safety compromised, since occupational health and safety training is lacking.	Ensure all Process Controllers and other personnel on site are provided with adequate Occupational Health and Safety Training.
Non-compliance with final effluent standard due to inadequate plant capacity.	Upgrade the WWTW. Continue to monitor the daily flows at the plant and the organic loads.
Unhealthy conditions, due to unsafe / inappropriate disposal of screenings and grit. Necessary PPE not available.	Continue to ensure all screenings and grit are stored in skips and disposed of at a landfill site according to authorisation. Provide the required tools and equipment (PPE) for the safe removal of screenings and grit.
Primary sludge accumulation, due to inadequate flow and desludging and deterioration of infrastructure (mechanical equipment is not moving normally).	PCs to ensure regular desludging of PSTs and even flow division between two PSTs. Required maintenance work on PSTs to be carried out.
Non-compliance with final effluent standards, because there is not adequate sludge draw off from the reactor. Recycle pumps are not in good working order.	Ensure all RAS, WAS and internal recycle pumps are working and that PCs regularly draw sludge from reactor.
Process is not adequately controlled, due to lack of operational sampling.	Purchase required operational sampling equipment and implement recommended operational sampling programme (DO, pH, SVI and VSC (30 minute))
Inadequate sludge control at reactor, which result in non-compliance of final effluent.	Install sludge flow meters (Return and Wasted) so that the sludge can be monitored and recorded for better process control.
Inadequate aeration, because of failures of aerators. Preventative maintenance programme is not implemented.	Implement a Preventative Maintenance Programme for all electrical and mechanical equipment at the plant.
Distribution failures, equipment failures, blockages, leakages, etc., due to filters not regularly being cleaned / maintained in good working order. Dilapidated rotating distributor piping arms and blockages of the syphons.	Develop effective maintenance methods, which include flushing surface media, removing weeds and debris, cleaning and adjusting distribution arms and turning over of the surface media with hand tools. Implement infrastructure maintenance programme.
Humus tanks not operating as it should, because of incorrect design. The unit is overloaded.	Phase out the humus tanks when the new upgraded WWTW is put into operation.
Mechanical screw press is not in good working order.	Implement preventative maintenance programme for infrastructure.
No dedicated areas for the storage of wet cake	Provide storage areas for the wet cake.
Inadequate sludge treatment, because Mechanical screw press is not operational when there is load shedding.	Install backup generator for the Screw Press, in order to ensure that the Screw Press are operational during load shedding periods.
Inadequate disinfection due to chlorine shortages, which result in microbiological failures for final effluent. Disinfection chemical supply runs out.	PCs to continue to monitor the available chlorine at the WWTW and any possible shortage of supply to be reported to the Senior Technician Water and Sanitation. PCs to ensure adequate disinfection with alternative chlorine tablets, when the chlorine gas system is not in use.
Inadequate disinfection due to dosing equipment failures and interruption of chlorination process.	PCs to continue to monitor automated chlorine dosing system and any alarms triggered due to failures to be followed up by PCs.
Non-compliance with final effluent standards, because maturation ponds are overgrown with reeds and vegetation and needs to be deslugged.	Remove overgrown vegetation and reeds from maturation ponds. Remove sludge from the maturation ponds
Be cautious not to drink recycled water on site.	Clearly mark all non-potable water (Recycled Water)
Final effluent not meeting the authorised limits for Microbiological Compliance.	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for Ammonia.	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for COD.	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for Free Chlorine.	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for EC.	Monitor the quality of industrial effluent discharged into the sewer system
Final effluent not meeting the authorised limits for Total Suspended Solids.	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Non-compliance with Licence conditions, because final effluent discharged from the plant is not metered.	Install a final effluent flow meter
Pollution of the river, because of non-compliance of final effluent discharged from the plant. Disturbed riparian ecosystem due to contamination in water.	Monthly river quality monitored upstream and downstream of discharge point
McGregor WWTW and sewer drainage network	
Hazardous chemicals entering the plant due to quality of industrial effluent discharge by industrial consumers and tanker discharge not being monitored adequately to ensure compliance with the limits	Monitor the quality of industrial effluent discharged by Industrial Consumers and ensure enforcement of bylaws w.r.t. the quality of effluent discharged.
	Identify the industries that contribute to increased loading or undesirable compounds in inflow to the WWTW. Provide report to BOCMA within one year period.
	Put agreements / contracts in place with all industrial consumers discharging into the Municipality's sewer system, which include quality standards and monitoring procedures.
	Promote public awareness with industrial and commercial consumers of the impact of the quality of effluent discharged into the Municipality's sewer system.
	Put a system in place to monitor the quality of effluent discharged by tankers at the works.
Human and animal accidents due to inadequate security measures on site, such as fencing, hand rails, life buoys and signage. No showers at plant.	Erect new fencing around the inlet works and around the plant and ensure adequate safety measures be put in place with the required signage. Provide shower facility and provide space for the storing of files, logbooks, etc. secure and safe at the plant.
Staff health and safety compromised, since there are not adequate safety procedures in place (SOPs).	SOPs to be drafted for all unit processes, which also include safety procedures.
Staff health and safety compromised, since occupational health and safety training is lacking.	Ensure all Process Controllers and other personnel on site are provided with adequate Occupational Health and Safety Training.
Non-compliance with final effluent standard due to inadequate plant capacity	Upgrade the WWTW in the nearby future. Install flow meter to measure inflow and not only outflow. Continue to monitor the daily flow at the plant and the organic loads.
Unhealthy conditions at inlet works	Construct proper platform at the inlet works for the removal and dry-out of screenings. Provide skips for the storage of screenings and rags, before removal.
Power failures causes non-compliance with disinfection. System is not operational during power failure periods.	Investigate alternative energy solutions for load shedding periods, w.r.t. the irrigation PS and the ozone disinfection.
Possible groundwater pollution, because no groundwater monitoring programme is in place	Develop groundwater monitoring programme for the irrigated area. Submit programme to CEO of BOCMA.
Current irrigation practices not complying with Licence requirements	Irrigation areas to be fenced. Regular fixing of irrigation sprinklers (No water logging and pooling). Prevent fly breeding, public health hazard, odour or secondary pollution. No run-off. Investigate alternative area and communicate to BOCMA.
Final effluent for irrigation not meeting the authorised limit for SAR	Continue to monitor SAR levels on a monthly basis.
Final effluent for irrigation not meeting the authorised limit for EC	Monitor the quality of industrial effluent discharged into the sewer system
Bonnievale WWTW and sewer drainage network	
Hazardous chemicals entering the plant due to quality of industrial effluent discharge by industrial consumers and tanker discharge not being monitored adequately to ensure compliance with the limits	Monitor the quality of industrial effluent discharged by Industrial Consumers and ensure enforcement of bylaws w.r.t. the quality of effluent discharged.
	Identify the industries that contribute to increased loading or undesirable compounds in inflow to the WWTW.
	Put agreements / contracts in place with all industrial consumers discharging into the Municipality's sewer system, which include quality standards and monitoring procedures.
	Promote public awareness with industrial and commercial consumers of the impact of the quality of effluent discharged into the Municipality's sewer system.
	Put a system in place to monitor the quality of effluent discharged by

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
	tankers at the works.
Staff working with chlorine requires refresher training in order to ensure that emergency procedures and action plans are followed during an incident.	Chlorine Safety Audit to be done, which assess training provided to PCs.
Inadequate chlorine signage at treatment facilities.	Chlorine Safety Audit to be done, which assess chlorine signage at treatment facility.
Building construction, loading and off-loading equipment and chlorine storage facilities not on standard.	Chlorine Safety Audit to be done, which assess building construction, loading and off-loading equipment and chlorine storage facilities.
Dosing equipment and safety equipment not on standard. Staff safety is compromised as they do not have enough PPE.	Chlorine Safety Audit to be done, which assess dosing and safety equipment.
Staff health and safety compromised, since there are not adequate safety procedures in place (SOPs).	SOPs to be drafted for all unit processes, which also include safety procedures.
Staff health and safety compromised, since occupational health and safety training is lacking	Ensure all Process Controllers and other personnel on site are provided with adequate Occupational Health and Safety Training.
Disruption of treatment process due to power failures.	Install backup generator for the plant
Non-compliance with final effluent standard due to inadequate plant capacity. Flow and load variations that exceed the design limits especially during rainy season.	Upgrade the WWTW in the nearby future. Continue to monitor the daily flows at the plant and the organic loads.
Overflow at inlet works, because proper tools and equipment is not available for effective screenings removal.	Ensure PCs are provided with required tools and equipment for proper screenings removal.
Overflow at inlet works, because proper tools and equipment is not available for effective grit removal. Lack of clean water for high pressure site cleaning.	Ensure PCs are provided with required tools and equipment for proper grit removal and clean water is available for high pressure site cleaning.
Non-compliance with final effluent standards, because there is not adequate sludge draw off from the reactor.	Ensure all RAS, WAS and internal recycle pumps are working and that PCs regularly draw sludge from reactor.
Non-compliance with final effluent COD and Ammonia levels, because no schedule for the switching on / off of the aerators (Inadequate process control)	Compile a schedule for the running of the aerators. Link operation of aerators to DO level in the reactor
Faulty scada system result in the ineffective operation of the SSTs	Investigate the faulty scada system, which result in the ineffective operation of the SSTs
Insufficient removal of scum from surface, which result in scum carry over (Operational scum draw off system is not adhered to).	Ensure even flow distribution, weir maintenance and scum removal by PCs
Inadequate disinfection due to chlorine shortages, which result in microbiological failures for final effluent. Disinfection chemical supply runs out.	PCs to continue to monitor the available chlorine at the WWTW and any possible shortage of supply to be reported to the Senior Technician Water and Sanitation. PCs to ensure adequate disinfection with alternative chlorine tablets, when the chlorine gas system is not in use.
Inadequate disinfection due to dosing equipment failures and interruption of chlorination process (Power failures).	PCs to continue to monitor automated chlorine dosing system and any alarms triggered due to failures to be followed up by PCs. Back-up generator to be installed.
Potential groundwater pollution, because maturation ponds are not lined.	Investigate whether it is necessary for the maturation ponds to be lined.
Non-compliance with final effluent standards, because maturation ponds are overgrown with reeds and vegetation and banks are eroded.	Remove overgrown vegetation and reeds from maturation ponds. Implement embankment erosion protection measures.
Be cautious not to drink recycled water on site	Clearly mark all non-potable water (Recycled Water)
Groundwater pollution due to uncontrolled irrigation and run off from the irrigation area. Area belong to Municipality, but irrigation is by Mooi Valley Cheese Factory.	Municipality to participate in engagements between the BOCMA and the Mooi Valley Cheese Factory with regard to irrigation practices.
Final effluent not meeting the authorised limits for Microbiological Compliance	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for Ammonia	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for COD	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Final effluent not meeting the authorised limits for Orthophosphates	Continue to monitor Orthophosphate compliance on a monthly basis.
Final effluent not meeting the authorised limits for Free Chlorine	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for EC	Monitor the quality of industrial effluent discharged into the sewer system
Final effluent not meeting the authorised limits for Total Suspended Solids	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Non-compliance with Licence conditions, because final effluent discharged from the plant is not metered.	Install a final effluent flow meter
Pollution of the river, because of non-compliance of final effluent discharged from the plant	Monthly river quality monitored upstream and downstream of discharge point
Ashton WWTW and sewer drainage network	
Hazardous chemicals entering the plant due to quality of industrial effluent discharge by industrial consumers and tanker discharge not being monitored adequately to ensure compliance with the limits	Monitor the quality of industrial effluent discharged by Industrial Consumers and ensure enforcement of bylaws w.r.t. the quality of effluent discharged.
	Identify the industries that contribute to increased loading or undesirable compounds in inflow to the WWTW.
	Put agreements / contracts in place with all industrial consumers discharging into the Municipality's sewer system, which include quality standards and monitoring procedures.
	Promote public awareness with industrial and commercial consumers of the impact of the quality of effluent discharged into the Municipality's sewer system.
	Put a system in place to monitor the quality of effluent discharged by tankers at the works.
Staff working with chlorine requires refresher training in order to ensure that emergency procedures and action plans are followed during an incident.	Chlorine Safety Audit to be done, which assess training provided to PCs.
Inadequate chlorine signage at treatment facilities.	Chlorine Safety Audit to be done, which assess chlorine signage at treatment facility.
Building construction, loading and off-loading equipment and chlorine storage facilities not on standard.	Chlorine Safety Audit to be done, which assess building construction, loading and off-loading equipment and chlorine storage facilities.
Dosing equipment and safety equipment not on standard.	Chlorine Safety Audit to be done, which assess dosing and safety equipment.
Human accidents due to inadequate security measures on site, such hand rails along walkways and signage	Install the required safety railings along walkways and relevant safety signage to be put up.
Staff health and safety compromised, since there are not adequate safety procedures in place (SOPs).	SOPs to be drafted for all unit processes, which also include safety procedures.
Staff health and safety compromised, since occupational health and safety training is lacking	Ensure all Process Controllers and other personnel on site are provided with adequate Occupational Health and Safety Training.
Disruption of treatment process due to load shedding.	Back-up generator needs to be installed for the plant.
Primary sludge accumulation, due to inadequate flow and desludging and deterioration of infrastructure (mechanical equipment is not moving normally). Inadequate load reduction (COD, TSS) due to inadequate desludging will/may lead to overloading of the Biological reactor.	PCs to ensure regular desludging of PSTs and even flow division between two PSTs. Required maintenance work on PSTs to be carried out.
Distribution failures, equipment failures, blockages, leakages, e.t.c., due to filter not regularly being cleaned / maintained in good working order.	Develop effective maintenance methods, which include flushing surface media, removing weeds and debris, cleaning and adjusting distribution arms and turning over of the surface media with hand tools.
Non-compliance with final effluent standards, because there is not adequate sludge draw off from the reactor.	Ensure all RAS, WAS and internal recycle pumps are working and that PCs regularly draw sludge from reactor. Implement recommended operational sampling programme for proper process control.
Insufficient removal of scum from surface, which result in scum carry over.	Ensure even flow distribution, weir maintenance and scum removal by PCs
Non-compliance with final effluent standards, because SSTs are not adequately maintained	Implement preventative maintenance programme for infrastructure. Ensure bridge is rotating properly. Bridge motor and bearings to be checked and serviced as per specifications.

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
Inadequate disinfection due to chlorine shortages, which result in microbiological failures for final effluent. Disinfection chemical supply runs out.	PCs to continue to monitor the available chlorine at the WWTW and any possible shortage of supply to be reported to the Senior Technician Water and Sanitation. PCs to ensure adequate disinfection with alternative chlorine tablets, when the chlorine gas system is not in use.
Inadequate disinfection due to dosing equipment failures and interruption of chlorination process.	PCs to continue to monitor automated chlorine dosing system and any alarms triggered due to failures to be followed up by PCs.
Drowning risk for people and animals, because ponds are not fenced with no signage.	Install required safety signage around maturation ponds and install security fence
Non-compliance with final effluent standards, because maturation ponds are overgrown with reeds and vegetation and needs to be desludged.	Remove overgrown vegetation and reeds from maturation ponds. Remove sludge from the maturation ponds
Be cautious not to drink recycled water on site	Clearly mark all non-potable water (Recycled Water)
Final effluent not meeting the authorised limits for Microbiological Compliance	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for Ammonia	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for COD	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for Orthophosphates	Continue to monitor Orthophosphate compliance on a monthly basis.
Final effluent not meeting the authorised limits for Free Chlorine	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for EC	Monitor the quality of industrial effluent discharged into the sewer system
Final effluent not meeting the authorised limits for Total Suspended Solids	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Non-compliance with Licence conditions, because final effluent discharged from the plant is not metered.	Install a final effluent flow meter
Pollution of the river, because of non-compliance of final effluent discharged from the plant	Monthly river quality monitored upstream and downstream of discharge point
Insufficient drying of sludge. Capacity of existing sludge drying beds is inadequate and the drying of the sludge is problematic during winter months	Investigate alternative sludge drying methods for the plant.
Montagu WWTW and sewer drainage network	
Hazardous chemicals entering the plant due to quality of industrial effluent discharge by industrial consumers and tanker discharge not being monitored adequately to ensure compliance with the limits.	Monitor the quality of industrial effluent discharged by Industrial Consumers and ensure enforcement of bylaws w.r.t. the quality of effluent discharged.
	Identify the industries that contribute to increased loading or undesirable compounds in inflow to the WWTW. Compile report within one year and provide report to BOCMA.
	Put agreements / contracts in place with all industrial consumers discharging into the Municipality's sewer system, which include quality standards and monitoring procedures.
	Promote public awareness with industrial and commercial consumers of the impact of the quality of effluent discharged into the Municipality's sewer system.
	Put a system in place to monitor the quality of effluent discharged by tankers at the works.
Staff working with chlorine requires refresher training in order to ensure that emergency procedures and action plans are followed during an incident.	Chlorine Safety Audit to be done, which assess training provided to PCs.
Inadequate chlorine signage at treatment facilities.	Chlorine Safety Audit to be done, which assess chlorine signage at treatment facility.
Building construction, loading and off-loading equipment and chlorine storage facilities not on standard.	Chlorine Safety Audit to be done, which assess building construction, loading and off-loading equipment and chlorine storage facilities.
Dosing equipment and safety equipment not on standard. Staff safety is compromised as they do not have enough	Chlorine Safety Audit to be done, which assess dosing and safety equipment.

Table C.4.3.2: Medium and High risks for the various WWTWs and sewer drainage networks and recommended mitigation / improvement plans	
Potential Hazard / Risk	Recommended Mitigation / Improvement plan (Proposed Control Measure)
PPE.	
Staff health and safety compromised, since there are not adequate safety procedures in place (SOPs).	SOPs to be drafted for all unit processes, which also include safety procedures.
Staff health and safety compromised, since occupational health and safety training is lacking.	Ensure all Process Controllers and other personnel on site are provided with adequate Occupational Health and Safety Training.
Unhealthy conditions, due to unsafe / inappropriate disposal of screenings and grit.	Continue to ensure all screenings and grit are stored in skips and disposed of at a landfill site according to authorisation.
Non-compliance with final effluent standards, because the reactors are not regularly cleaned / maintained and there is scum on the surface	Ensure the regular cleaning of the reactors by the PCs.
Process is not adequately controlled, due to lack of operational sampling	Purchase required operational sampling equipment and implement recommended operational sampling programme (DO, pH, DSVI, SVI and VSC (30 minute)
Inadequate sludge control at reactor, which result in non-compliance of final effluent.	Install sludge flow meters (Return and Wasted) so that the sludge can be monitored and recorded for better process control.
Insufficient removal of scum from surface, which result in scum carry over (Operational scum draw off system is not adhered to).	Ensure even flow distribution, weir maintenance and scum removal by PCs at the SSTs
Inadequate disinfection due to chlorine shortages, which result in microbiological failures for final effluent. Disinfection chemical supply runs out.	PCs to continue to monitor the available chlorine at the WWTW and any possible shortage of supply to be reported to the Senior Technician Water and Sanitation. PCs to ensure adequate disinfection with alternative chlorine tablets, when the chlorine gas system is not in use.
Inadequate disinfection due to dosing equipment failures and interruption of chlorination process due to load shedding.	PCs to continue to monitor automated chlorine dosing system and any alarms triggered due to failures to be followed up by PCs.
Be cautious not to drink recycled water on site	Clearly mark all non-potable water (Recycled Water)
Final effluent not meeting the authorised limits for Microbiological Compliance	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for Ammonia	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for COD	Purchase required operational sampling equipment, provide training to PCs to ensure better process control of processes, in order to ensure final effluent compliance.
Final effluent not meeting the authorised limits for Free Chlorine	Re-implement gas chlorination in order to ensure better control of the disinfection process.
Final effluent not meeting the authorised limits for EC	Monitor the quality of industrial effluent discharged into the sewer system
Non-compliance with Licence conditions, because final effluent discharged from the plant is not metered.	Install a final effluent flow meter
Pollution of the river, because of non-compliance of final effluent discharged from the plant. Uncontrolled algae growth. Disturbed riparian ecosystem due to contamination in water.	Monthly river quality monitored upstream and downstream of discharge point
All WWTWs and sewer drainage networks	
Not able to meet new Regulation 3630 requirements w.r.t. the number of Process Controllers.	Continue to ensure that the Number and Class of PCs comply with the legal requirements.
Collapse of sewerage infrastructure, due to insufficient personnel for operation and maintenance of infrastructure.	Ensure all required posts are budgeted for and that the vacancy rate for sanitation services personnel (Approved Posts) is less than 10%.
Final effluent not meeting required standards, due to lack of proper process control by Process Controllers (Operational Sampling Programme not adequate).	Implement the proposed operational sampling programme. Ensure PCs implement the existing and the proposed additional control sheets. Ensure all the inline monitoring equipment and the automated unit treatment processes at the WWTW are all working.
Infrastructure failure on sewer network, at pump stations and at WWTW, due to insufficient budget allocation towards operation and maintenance (Lack of adequate tools).	Allocate a budget of approximately 2% of the CRC of the sewerage infrastructure per annum towards the replacement of the existing old infrastructure and between 1% and 2% towards the operation and maintenance of the existing sewerage infrastructure.
Fats and oils from restaurants interfere with biological processes at WWTW.	Inspections w.r.t. the quality of effluent discharged by restaurants into the sewer system. Enforce bylaws w.r.t. quality of effluent.

The Water Safety Plan and W₂RAP Teams of Langeberg Municipality are committed to meet regularly to review the implementation of all the aspects of the Water Safety Plans and W₂RAPs to ensure that they are still accurate and to determine whether the field assessments need updates or modifications and whether the Incident Response Management Protocols are still adequate. In addition to the regular review, the Water Safety Plans and W₂RAPs will also be reviewed when, for example, a new water source is developed, major treatment improvements are planned and brought into use, or after a major incident.

Incident Response Management Protocols are in place and forms part of Langeberg Municipality's Water Safety Plans and W₂RAPs. The Incident Response Management Protocols entail that certain reactive procedures are followed when an incident occurs, such as when a malfunction of the treatment processes occurs due to power failures, faulty equipment, adverse weather conditions or human error.

Operational Alert Levels were also proposed for the various WTWs and WWTWs in order to ensure that the various unit processes in the plant performs optimally. If these pre-determined Alert Levels are exceeded at any of the control points where samples are taken for operational purposes, specific actions need to be taken to bring the operational parameters back to within the target ranges.

Table C.4.3.3: Incident Management and Reporting Overview

WSDP Ref #	Measurable / Enabling Factor	Unit	Year 0	Year - 1	Year - 2
			FY2024/25	FY2023/24	FY2022/23
6.3	Water Supply and Quality				
6.3.1	Incident Management Protocol in place	yes/total schemes in %	Yes	Yes	Yes
6.3.5	Failure Response Management in place	yes/total schemes in %	Yes	Yes	Yes
6.4	Waste Water Supply and Quality				
6.4.1	Incident Management Protocol in place	yes/total schemes in %	Yes	Yes	Yes
6.4.5	Failure Response Management in place	yes/total schemes in %	Yes	Yes	Yes

Table C.4.3.4: Water Quality Incident Reporting Compliance (Health Oriented)

Measurable / Enabling Factor	Unit	Year 0			Year-1			Year-2		
		FY2024/25			FY2023/24			FY2022/23		
		Acute Health Microbiological	Acute Health Chemical	Chronic Health	Acute Health Microbiological	Acute Health Chemical	Chronic Health	Acute Health Microbiological	Acute Health Chemical	Chronic Health
Failures in terms of Analysis	Total nr	439	90	634	447	78	586	438	68	549
	Nr of failures	21	0	0	36	0	1	100	0	1
	Failure %	4.8%	0.0%	0.0%	8.1%	0.0%	0.2%	22.8%	0.0%	0.2%
	Nr reported	21	0	0	36	0	1	100	0	1
	Reported % of failure	100%	100%	100%	100%	100%	100%	100%	100%	100%
Failures in terms of Samples	Total	439	90	634	447	78	586	438	68	549
	Nr of failures	21	0	0	36	0	1	100	0	1
	Failure %	4.8%	0.0%	0.0%	8.1%	0.0%	0.2%	22.8%	0.0%	0.2%
	Nr reported	21	0	0	36	0	1	100	0	1
	Reported % of failure	100%	100%	100%	100%	100%	100%	100%	100%	100%
Failures in terms of Sites	Total	439	90	634	447	78	586	438	68	549
	Nr of failures	21	0	0	36	0	1	100	0	1
	Failure %	4.8%	0.0%	0.0%	8.1%	0.0%	0.2%	22.8%	0.0%	0.2%
	Nr reported	21	0	0	36	0	1	100	0	1
	Reported % of failure	100%	100%	100%	100%	100%	100%	100%	100%	100%

C.5. Water Conservation and Water Demand Management

The table below gives an overview of the WC/WDM activities implemented by Langeberg Municipality.

Table C.5.1: Overview of WC/WDM Activities														
WSDP Ref. #	Regulations Ref. #	Description	Urban Settlements						Rural Settlements					
			Year 0		Year - 1		Year - 2		Year 0		Year - 1		Year - 2	
			FY2024/25		FY2023/24		FY2022/23		FY2024/25		FY2023/24		FY2022/23	
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	Nr	% of total	Nr	% of total	Nr	% of total
7.1.1.1		Night flow metering	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7.1.1.2		Day flow metering	17 928	100%	17 897	100%	17 866	100%	0	0%	0	0%	0	0%
7.1.1.3		Reticulation leaks fixed	235	100%	389	100%	260	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	0%
7.1.1.5		Un-metered connections, metered	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7.1.2	10.2.g.iii	REDUCING HIGH PRESSURES FOR RESIDENTIAL CONSUMERS												
		Number of residential consumers with water supply pressure of:	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total	Nr	% of total
7.1.2.1		< 300 kPa	593	3%	592	3%	591	3%	0	0%	0	0%	0	0%
7.1.2.2		300 kPa - 600 kPa	9 918	55%	9 901	55%	9 883	55%	0	0%	0	0%	0	0%
7.1.2.3		600 kPa - 900 kPa	7 417	41%	7 404	41%	7 391	41%	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	0	0%	0	0%	0	0%	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	1 203	6.7%	1 150	6.4%	788	4.4%	0	0%	0	0%	0	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	Nr	% of total	Nr	% of total	Nr	% of total
7.1.4.1		Number of schools targeted by education programmes	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
7.1.4.2		Number of consumers targeted by public information programmes	17 928	100%	17 897	100%	17 866	100%	0	0%	0	0%	0	0%

Quantity of water unaccounted for:

A detail WC/WDM Strategy was drafted for Langeberg Municipality during 2014, which was approved by Council. The Municipality however plan to compile a new WC/WDM Strategy during the 2025/2026 year in order to ensure compliance with the requirements included in the Revised Compulsory National Water and Sanitation Standards, as published in Government Gazette No.52814 of 6 June 2025, which stipulate the following:

Water Services Institutions must develop and implement a 10-year Council approved WC/WDM Strategy and an Annual Plan within six months of the publication to be uploaded on the IRIS system and must consist of at least the following:

- Situation Assessment;
- Key issues and challenges;
- Focus areas of interventions;
- List of proposed interventions;
- Set targets for demand, NRW, water losses (commercial and real losses), ILI and per capita usage in line with subsection above; and
- Budgets and Multi-year Implementation timelines.

Langeberg Municipality's 2024/2025 performance with regard to the Key Performance Indicators included in the Revised Compulsory National Water and Sanitation Standards, as published in the Government Gazette No.52814 of 6 June 2025, is indicated in the table below for the various water distribution systems.

Water Distribution System	NRW 20%-30%	Water Losses 10% - 20%	ILI 2 - 4	Per Capita Usage 120 – 180 l/c/d
Robertson	12.6%	9.2%	2.43	137
McGregor	10.7%	9.9%	1.53	159
Bonnievale	19.6%	17.1%	6.13	122
Ashton	10.1%	9%	3.09	126
Montagu	5.1%	0.5%	0.49	70
Langeberg Municipality	12.9%	10.6%	2.48	118

Note: Comply with KPI / Do not comply with KPI

The table below gives a summary of the treatment losses, NRW, water losses and ILIs for the various distribution systems in Langeberg Municipality's Management Area.

Description	Component	Unit	24/25	Record: Prior (Ml/a)			
				23/24	22/23	21/22	20/21
Robertson	Treatment Losses	Volume	99.681	28.016	269.018	183.845	227.359
		Percentage	3.1%	1.0%	9.6%	6.6%	7.8%
	NRW	Volume	389.078	332.894	339.332	430.151	577.051
		Percentage	12.6%	12.0%	13.4%	16.5%	21.6%
	Water Losses	Volume	283.092	327.368	334.258	424.950	571.699
		Percentage	9.2%	11.8%	13.2%	16.3%	21.4%
	ILI		2.43				3.85
The current treatment losses is very low and acceptable. The NRW increased slightly, but the water losses decreased during the last financial year. Both the NRW and water losses are at excellent levels and far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 2.43 indicates a good management system, with no urgent action required although the NRW and water losses should be monitored carefully.							
McGregor	Treatment Losses	Volume	35.991	28.772	32.184	25.471	21.211
		Percentage	10.4%	9.5%	10.9%	8.7%	7.9%
	NRW	Volume	33.174	9.742	12.958	-0.250	17.301

Table C.5.3: Treatment Losses, NRW, Water Losses and ILIs for the various water distribution systems							
Description	Component	Unit	24/25	Record: Prior (Ml/a)			
				23/24	22/23	21/22	20/21
		Percentage	10.7%	3.6%	4.9%	-0.1%	7.0%
	Water Losses	Volume	30.739	9.194	12.434	-0.786	16.804
		Percentage	9.9%	3.4%	4.7%	-0.3%	6.8%
	ILI		1.53				0.91
	The current treatment losses is just above 10%, which is acceptable. The historical high NRW and Water Losses for McGregor were reduced drastically from 2017/2018 onwards and the current NRW and Water Losses are at excellent levels. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 1.53 also indicates an excellent management system, with no specific intervention required.						
Bonnievale	NRW	Volume	421.432	626.180	448.910	356.609	349.250
		Percentage	19.6%	31.8%	23.4%	20.4%	19.8%
	Water Losses	Volume	366.463	622.238	445.079	353.109	345.290
		Percentage	17.1%	31.6%	23.2%	20.2%	19.6%
	ILI		6.13				5.16
	The NRW and Water Losses were reduced during the last financial year, which is excellent. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 25% and the water losses below 20%. The ILI of 6.13 however indicates a poor management system, which requires attention.						
Ashton	Treatment Losses	Volume	107.476	221.938	54.254	214.052	153.067
		Percentage	5.1%	12.1%	3.2%	11.3%	8.0%
	NRW	Volume	203.868	444.641	226.611	263.128	531.568
		Percentage	10.1%	26.8%	13.3%	14.4%	27.8%
	Water Losses	Volume	181.390	398.123	135.815	118.513	371.243
		Percentage	9.0%	23.9%	8.0%	6.5%	19.4%
	ILI		3.09				8.55
	The current treatment losses is low and acceptable. The NRW and Water Losses decreased drastically during the last financial year, which is excellent. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15%. The ILI of 3.09 indicates a good management system, with no urgent action required although the NRW and water losses should be monitored carefully.						
Montagu	Treatment Losses	Volume	453.957	258.099	194.590	191.817	204.645
		Percentage	31.5%	19.6%	15.8%	14.3%	15.8%
	NRW	Volume	50.030	29.828	69.327	79.369	143.294
		Percentage	5.1%	2.8%	6.7%	6.9%	13.1%
	Water Losses	Volume	5.262	27.714	67.250	77.063	141.109
		Percentage	0.5%	2.6%	6.5%	6.7%	12.9%
	ILI		0.49				1.39
	The existing treatment losses is extremely high and the Municipality needs to work towards a target of 10% for the treatment losses. The current NRW and Water Losses are very low. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 15% and the water losses below 10%. The ILI of 0.49 also indicates an excellent management system, with no specific intervention required.						
Langeberg Municipality	NRW	Volume	1 097.582	1 443.285	1 097.138	1 129.007	1 618.464
		Percentage	12.9%	18.7%	14.7%	15.9%	21.0%
	Water Losses	Volume	866.943	1 384.637	994.836	972.851	1 446.575
		Percentage	10.2%	17.9%	13.3%	12.8%	18.8%
	ILI		2.48				3.89
	The NRW and Water Losses decreased during the last financial year, which is excellent. Both the NRW and water losses are far below DWS's NRW target of 30% and water losses target of 20%. The Municipality needs to keep the NRW below 20% and the water losses below 15% for all the systems combined. The ILI of 2.48 for all the systems indicates good management systems, which should be monitored carefully.						

Notes: Infrastructure Leakage Index (ILI) for Developed Countries = 1 – 2 Excellent (Category A), 2 – 4 Good (Category B), 4 – 8 Poor (Category C) and > 8 – Very Bad (Category D)

Category A = No specific intervention required.

Category B = No urgent action required although should be monitored carefully.

Category C = Requires attention

Category D = Requires immediate water loss reduction interventions

The Infrastructure Leakage Index (ILI) in the above table is the most recent and preferred performance indicator for comparing leakage from one system to another. It is a non-dimensional index representing the ratio of the current real leakage and the “Unavoidable Annual Real Losses”. A high ILI value indicates a poor performance with large potential for improvement while a small ILI value indicates a well-managed system with less scope for improvement. The parameters used to calculate the ILIs for the various distribution systems are included in the Models in Annexure C. Attaining an ILI = 1 is a theoretical limit, which is the minimum water loss in an operational water reticulation system. A value of less than 1 should not occur since this implies that the actual leakage is less than the theoretical minimum level of leakage.

The 2025 No Drop Score for Langeberg Municipality is not yet available and the 2023 No Drop Score is still the latest score, as published by the DWS. The 2023 No Drop assessments were performed using a reduced set of No Drop Criteria. These criteria were selected to assess a WSA’s understanding of their WC/WDM status, the plans, strategies, budgets, and implementation of remedial projects. Below is a brief description of the Criteria used for the 2023 assessment.

Table C.5.4: Description of No Drop Criteria	
Criteria 1	WC/WDM status quo, plans and strategies, budgets, and implementation of projects (Water Resource Diagram, Water Balance, Council approved WC/WDM strategies and budgets).
Criteria 2	Asset management as it relates to meter replacement. Monitoring, analysis, and action of high loss District Metered Areas (DMAs) in metropolitan municipalities.
Criteria 3	Technical skills of WC/WDM team.
Criteria 5	Compliance and Performance based on the water loss and efficiency Key Performance Indicators (KPI) and year on year improvement there-of.

The purpose of the 2023 No Drop Assessments was twofold:

- To complete the consultative assessment of the 144 WSAs as per the No Drop Requirements based on the 2021/22 financial year.
- To update the water balance and water loss benchmarking for the 2022/23 financial year. This is reported on in the Status of Water Loss, Water Use Efficiency and Non-Revenue Water in South African Municipalities (2012/13 to 2022/23).

The No Drop results for Langeberg Municipality are presented in the table below.

Table C.5.5: No Drop Performance of the Municipality (DWS's 2023 No Drop Report)		
No Drop Score (2021/2022)		87%
Criteria	Weight	Score
1: WC/WDM Strategy, Planning and Implementation	45%	86% (Good)
2: Asset Management	10%	40% (Poor)
3: Technical Skills	10%	60% (Average)
5: Compliance and Performance	35%	82% (Good)
Weighted Sub-Total		77%
Bonus		10%
Score		87% (Good)
Penalty 1: No evidence of approved budget		0.0%
Penalty 2: Section 82 of the Water Servies Act		0.0%
Criteria 1 Sub-Items: WC/WDM Strategy, Planning and Implementation		
Item		Score (Max = 1)
1.1: Water Resources		1.0 (Excellent)
1.2: Water Balance		1.0 (Excellent)
1.2: WC/WDM Strategy and Business Plan		0.6 (Average)
Penalty 1: No evidence of approved budget		0.0
Criteria 5 Sub-Items: Compliance and Performance		
Item		Score (Max = 1)
5.1: Reticulation Leak Repair		1.0 (Excellent)

Table C.5.5: No Drop Performance of the Municipality (DWS's 2023 No Drop Report)	
5.2: Physical Water Losses	0.8 (Good)
5.3: Commercial Water Losses	0.8 (Good)
5.4: Non-Revenue Water	0.9 (Excellent)
5.5: Water Use Efficiency	0.6 (Average)
Water Balance Integrity	High (Excellent)

Regulatory Impression: The No Drop score of 87% indicates a good performance for Langeberg Municipality.

- Improvements should be implemented where gaps have been identified to shift to 'excellent'. Langeberg LM has demonstrated a good understanding of its water use situation and WC/WDM strategy.
- The IWA water balance (Reg 509 of 2001 Clause 10 of the Water Supply Regulations) included all the required components and covered the supply area. The integrity of the water balance was considered to be high.
- Proof of some consumer meter maintenance and replacements (Reg 509 of 2001 Clause 10e) was provided, but an insufficient number of interventions were implemented during the 2021/22 audit period.
- There are staff at the WSA responsible for water loss management, but there were shortcomings in the team and/or the related documentation (Clause 66 (Staff matters) of the Municipal Systems Act).
- The WSA provided evidence of a leak repair schedule for the audit period (Reg 509 of 2001 Clause 12), and the required percentage of incidents were addressed within the 48-hour response time.
- The regulator calculated the key performance indicators for physical water losses (ILI), commercial water losses, non-revenue water, water use efficiencies (Sec 6. (Performance Management) of the Municipal Systems Act 32 of 2000) based on the water balance.

The table below gives an overview of the System Input Volume, Average Billed Metered Consumption and NRW in litre per connection per day for the various water distribution systems for the 2024/2025 financial year.

Table C.5.6: System Input Volume, average billed metered consumption and NRW in litre per connection per day for the various water distribution systems for 2024/2025					
Water Balance Component	Robertson	McGregor	Bonnievale	Ashton	Montagu
System Input Volume	1 350	735	3 175	1 938	775
Average Billed Metered Cons.	1 179	657	2 552	1 741	735
Non-Revenue Water	170	79	623	196	39

Bonnievale is the town with the highest system input volume, average billed metered consumption and NRW per connection per day. The reason for the high water usage per connection per day because of the number of large water users located in the town (Factories).

Number of consumers connected to a water reticulation system where pressures rise above 900 kPa at the consumer connection are as follows:

The WDM Strategy developed in January 2008 by CES for the Cape Winelands District Municipality, which include Langeberg Municipality, identified Robertson and Bonnievale as the only towns in Langeberg Municipality's Management Area that should consider pressure management, as a measure of water demand management (where the % potential saving > 3% of the total water demand).

Table C.5.7: Potential savings on bulk water supply through the implementation of pressure management				
Distribution System	Saving Potential	Number of consumer connections where pressure rise above 900 kPa		Average Operating Pressure (m)
		Static Pressure	Residual Pressure	
Robertson	4%	Two areas where pressures are below 24m. This is at the high-lying eastern side of Reservoir 2 zone and the higher lying areas in Nkqubela when the booster pump is not operational.	In the 24m to 90m range in the upper Reservoir 3 zone under peak hour demand conditions. Large areas in the Reservoir 1 and 2 zones are below 24m and even below 15m (Lack of conveyance in the system and	52

Table C.5.7: Potential savings on bulk water supply through the implementation of pressure management				
Distribution System	Saving Potential	Number of consumer connections where pressure rise above 900 kPa		Average Operating Pressure (m)
		Static Pressure	Residual Pressure	
			insufficient zone boundaries).	
McGregor	1%	No areas where pressures are above 90m. The higher lying areas to the south of McGregor experience pressures below 24m, due to the topology of the town and the low lying nature of the reservoirs.	The residual pressures in large areas in McGregor are below 24m and even below 15m (Topology of the town and low lying nature of the reservoirs)	36
Bonnievale	4%	No areas where pressures are above 90m	In the 24m to 90m range in the old reservoir (lower) zone. Pressures below 24m and even below 15m in the new reservoir (higher) zone, due to lack of conveyance in the system.	65
Montagu	1%	No areas where pressures are above 90m. The higher lying areas in the George Brink, Kanonkop, Kanonkop Booster, Ashbury Lower and Badskop zones experience pressures below 24m, due to the topology of the town and the low lying nature of the reservoirs.	Below 15m in the Montagu West and Kanonkop zones under peak hour demand conditions (lack of conveyance in the system). Residual pressures in the Badshoogte, Ashbury Lower and George Brink zones of below 15m are experienced.	46
Ashton	2%	No areas in the network where pressures are below 24m or above 90m	In the 24m to 90m range under peak hour demand conditions	59

The table below gives an overview of the length of water pipelines and the average dynamic and static head for the different water distribution zones (March 2025).

Table C.5.8: Length and average dynamic and static heads of water pipelines for the different zones			
Zone	Length (km)	Average Dynamic Head	Average Static Head
Ashton - Ashton WTP	0.083	1	3
Ashton - Cogmanskloof	3.856	48	84
Ashton - Cogmanskloof reservoir	20.624	52	64
Ashton - Conradiedorp	0.908	29	36
Ashton - Conradiedorp PRV1	5.896	66	69
Ashton - Conradiedorp reservoir	9.265	57	67
Ashton - Zolani	5.212	56	65
Ashton - Zolani reservoir	16.453	49	59
Ashton	62.296	53	64
Bonnievale - Bonnievale HL	1.400	105	71
Bonnievale - Bonnievale HL PRV1	17.703	21	71
Bonnievale - Bonnievale HL reservoir	1.828	69	72
Bonnievale - Bonnievale LL	1.733	29	31
Bonnievale - Bonnievale LL Reservoir	6.608	43	58
Bonnievale - Bonnievale ML	0.971	62	80
Bonnievale - Bonnievale ML Reservoir	25.113	44	65
Bonnievale - Bonnievale WTP	0.064	4	92
Bonnievale	55.421	39	66
McGregor - McGregor Reservoir 2	0.101	2	3
McGregor - McGregor Reservoir 2 reservoir	13.246	30	45
McGregor - McGregor Reservoir 3	0.589	8	10
McGregor - McGregor Reservoir 3 booster	2.012	22	45
McGregor - McGregor Reservoir 3 reservoir	7.751	0	41
McGregor - McGregor WTP	0.085	0	0
McGregor	23.783	19	42
Montagu - Ashbury Lower	0.337	9	10
Montagu - Ashbury Lower reservoir	18.348	31	41
Montagu - Ashbury Upper	4.930	58	71
Montagu - Badshoogte	0.709	15	37

Table C.5.8: Length and average dynamic and static heads of water pipelines for the different zones			
Zone	Length (km)	Average Dynamic Head	Average Static Head
Montagu - Badshoogte reservoir	3.055	28	32
Montagu - George Brink	2.167	19	29
Montagu - George Brink reservoir	21.071	30	38
Montagu - Kanonkop	0.275	12	25
Montagu - Kanonkop booster	1.648	22	70
Montagu - Kanonkop reservoir	7.495	14	43
Montagu - Montagu South	1.530	79	94
Montagu - Montagu South reservoir	7.980	56	62
Montagu - Montagu West	0.270	22	23
Montagu - Montagu West reservoir	2.663	52	55
Montagu - Montagu WTP	0.092	0	1
Montagu - Qui Sana	0.384	20	24
Montagu - Qui Sana reservoir	0.005	1	2
Montagu	72.959	34	46
Robertson - Robertson Reservoir 1	4.817	34	35
Robertson - Robertson Reservoir 1 PRV1	1.545	20	33
Robertson - Robertson Reservoir 1 reservoir	51.279	39	61
Robertson - Robertson Reservoir 2	0.698	20	8
Robertson - Robertson Reservoir 2 reservoir	21.895	38	43
Robertson - Robertson Reservoir 3	0.912	7	25
Robertson - Robertson Reservoir 3 reservoir	13.075	51	59
Robertson - Robertson Reservoir 4	0.083	2	27
Robertson - Robertson Reservoir 4 reservoir	17.216	25	94
Robertson	111.519	37	60

Demand management activities undertaken:

The main water demand management interventions undertaken by Langeberg Municipality over the last few years are as follows:

- Water Master Plans were updated during the last financial year for all the towns.
- Pipe replacement and maintenance programme is implemented for the priority areas with old reticulation networks and frequent pipe failures. All pipe bursts are logged.
- Customer services and complaints system (Burst pipes, complaints, etc.). Standby teams are also in place for immediate repairs of burst pipes.
- Bulk metering and telemetry system, which act as an early warning system for e.g. pipe failures and reservoir overflows.
- Accurate records of bulk meter readings and water usage and calculation of NRW and Water Losses. IWA Water balance models for each of the water distribution systems are kept up to date.
- A rising step block tariff structure for water services. This tariff system can be further reviewed to more effectively discourage the wasteful or inefficient use of water.
- Strict municipal services standards for the installation of new water reticulation for own and private developments.

The graphs that follow give an overview of the number of pipe bursts repaired by the Municipality for the various towns.

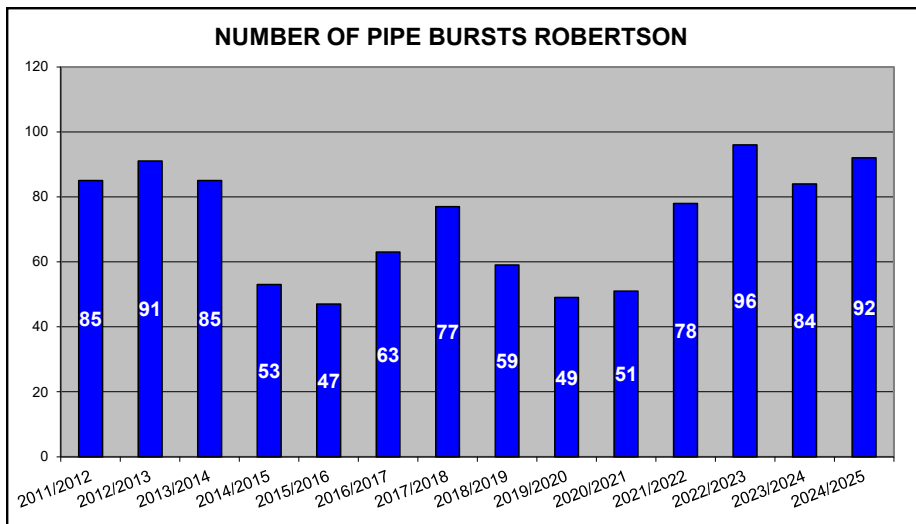


Figure C.5.1: Number of pipe bursts repaired for Robertson

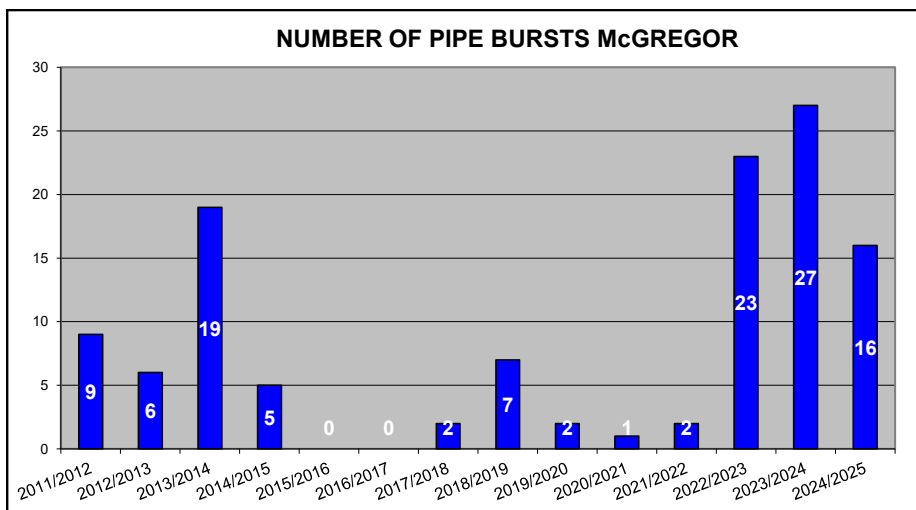


Figure C.5.2: Number of pipe bursts repaired for McGregor

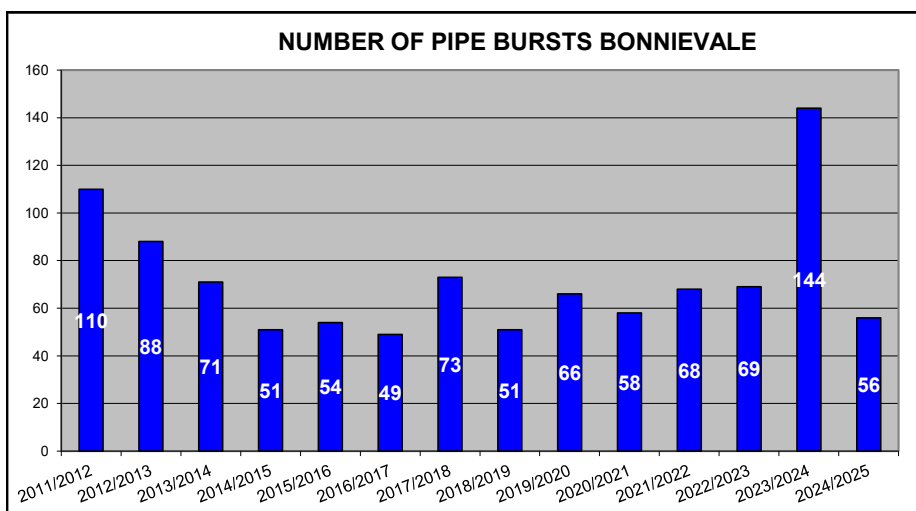


Figure C.5.3: Number of pipe bursts repaired for Bonnievale

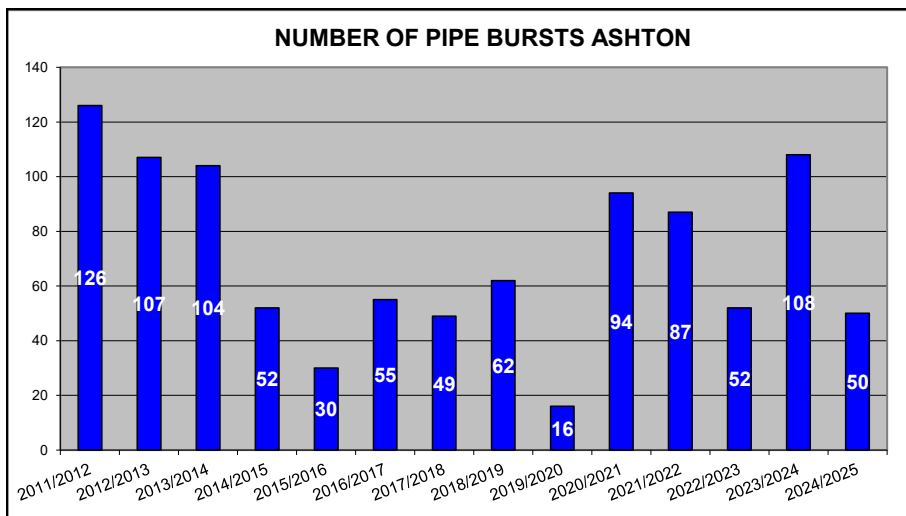


Figure C.5.4: Number of pipe bursts repaired for Ashton

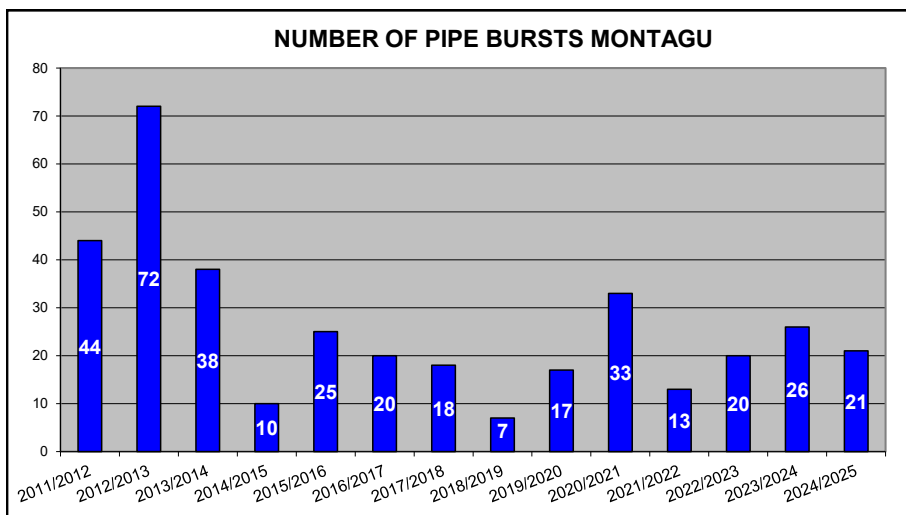


Figure C.5.5: Number of pipe bursts repaired for Montagu

The graph below gives an overview of the total number of pipe bursts repaired by the Municipality for the various financial years.

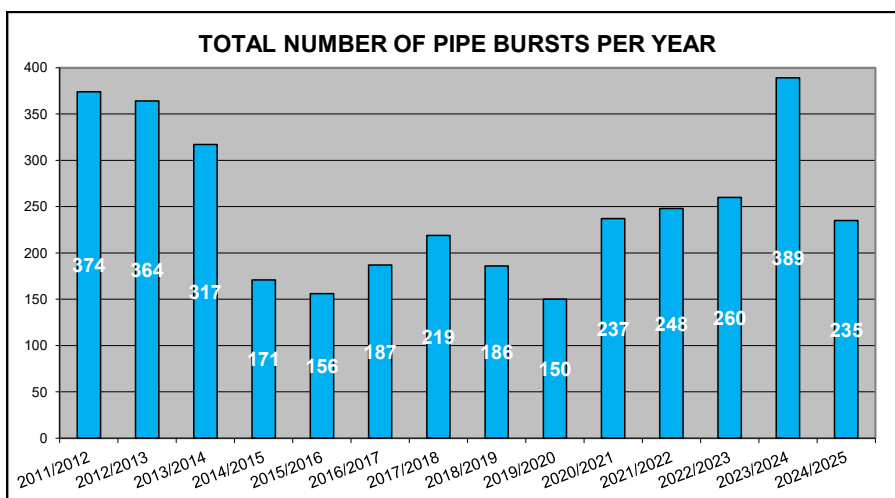


Figure C.5.6: Total pipe bursts repaired by the Municipality for the various financial years

DWS's scorecard for assessing the potential for WC/WDM efforts, as completed for Langeberg Municipality, is included in Annexure E. The aim of the scorecard was to establish areas where the municipality has made good progress in relation to WC/WDM and where there is still room for improvement. It can be seen from the Scorecard that there are 25 questions each of which carries a maximum of 4 points providing a possible maximum score of 100. If the Municipality has the specific item completely under control, it receives the maximum points and if it is neglecting the item completely it receives no points. There are various levels between the maximum and the minimum number of points assigned to the municipality for each item depending on the level of completeness or lack thereof. **The status quo score for Langeberg Municipality is 69 out of 100 suggesting that the Municipality is making good progress with regard to the implementation of specific WC/WDM activities.**

The proposed WC/WDM Strategy, as included in the previous WSDP, is also based on the 25 KPIs (DWS's WC/WDM Scorecard) and the recommendations and budget requirements for each of the KPIs are summarised in the table below.

Table C.5.9: WC/WDM Strategy as included in the approved WSDP	
Recommendation and Strategy	Funding and Budget Requirements
Item 1: Development of a standard water balance	
- Continue with the monthly updating of the IWA Water Balances for all the systems and reporting on the NRW and Water Losses for each of the systems to management. Employ and train a dedicated senior technician to manage NRW analysis. - Continue with the drafting of an annual WSDP Performance and Water Services Audit Report, as required by the Water Services Act. - Implement the recommended WC/WDM activities in order to reduce the NRW and Water Losses. - Determine all unbilled authorized consumption by firstly identify all the relevant consumers, e.g. Municipal buildings, parks, fire services, sport fields, etc. Unbilled consumption do not generate income, but will enable the municipality to better quantify their actual water losses.	No specific budget requirements. The IWA Water Balances for the systems are updated on a monthly basis by the municipality.
Item 2: Pressurised system at all times	
- Adequate human resources, technical skills and O&M budgets need to be allocated towards the operation, maintenance and refurbishment of the existing infrastructure, in order to ensure that systems are always pressurised. - Existing water pump stations that are in a poor condition needs to be refurbished.	Budgets as indicated under the individual items of the WC/WDM Strategy. Increase O&M budget allocations towards the refurbishment and replacement of old water infrastructure.
Item 3 and 4: Metering System	
- All un-metered water connections, as identified through the WSMP process, need to be provided with water meters. Meters need to be read on a monthly basis and consumers need to be billed monthly according to their actual water usage. In addition to water theft, many water accounts go unnoticed in the system or have some type of data inconsistency that results in no revenue being generated for the particular water use event. The Treasury data therefore needs to be cleaned and the municipality needs to identify and correct any inaccurate data in the system. - Consumer consumption checks / investigations need to be carried out where water usage are very low, but there are households on the property. This project will give a clear indication of where illegal or unregistered connections is being made and whether the meter is under reading the actual consumption, thus water is being used but not billed or recorded. - A complete meter audit should be undertaken in all towns. All illegible / broken / old meters should be replaced. Any un-metered stands should be metered and meter readings in the billing system should be updated where required. All meter boxes should also be cleaned as part of the audit. - Municipality needs to continue with the implementation of their Meter Management / Replacement program. - Relevant activities need to be budgeted for.	Install water meters for all un-metered water connections. Estimated budget requirement for the installation of individual water meters is R1 817 500. Estimated budget of R800 000 is required for a detail water meter audit and cleaning of meter boxes of approximately 18 000 stands
Item 5: Effective and Informative Billing System	
- Municipality needs to ensure that all customer's meters are read on a monthly basis and that the customers are billed on a monthly basis according to the actual volume of water used for the specific month. - Municipality needs to continue with the commercial data analysis done on the billed metered consumption data, which include the identification of un-metered erven,	Estimated cost to enhance the user friendliness of the municipal bill is R275 000.

Table C.5.9: WC/WDM Strategy as included in the approved WSDP	
Recommendation and Strategy	Funding and Budget Requirements
- investigating meters with zero consumption, investigating abnormal low and high consumption readings, oversized / undersized meters, etc. - Additional measures can be implemented to make the consumer bills more informative.	
Item 6 and 7: General Complaints System	
- The municipality needs to ensure that all consumers are familiar with the telephone numbers to lodge complaints and report leaks. Suggestions would be to include these numbers on the monthly water bills, on the Municipality's website, strategically located notice boards, radio broadcasts, etc. - Implement projects and measures for passive leakage control. - Consumer Services Charter to include all relevant information.	Budget requirement for improved customer awareness raising with regard to the Municipality's Complaints System R130 000/annum.
Item 8: Asset Register for Water Infrastructure	
The municipality needs to ensure that all the existing water and sewerage infrastructure is included in the Asset Register. The CRC of the assets also needs to be included in the Asset Register.	None - To be done as part of the annual updating of the Asset Register by the municipality.
Item 9: Asset Management Capital Works	
Allocate a budget of at least 2% of the total water asset value per annum towards the replacement of existing infrastructure. Municipality needs to differentiate in their capital budget between new projects and projects that are for the replacement of existing infrastructure, in order to accurately calculate the annual percentage allocated towards the replacement of existing infrastructure.	Capital budget of at least 2% of the total water and sewerage asset value allocated towards the replacement of the existing water and sewerage infrastructure.
Item 10: Asset Management Operation and Maintenance	
- The municipality needs to differentiate between budget allocated towards the operation and maintenance of the water infrastructure and the budget allocated towards the replacement of the water and sewerage infrastructure. A budget of approximately 1% to 2% of the value of the system is typically required for the operations and maintenance of the system to ensure that the system remains in good condition. - The municipality needs to compile an Asset Management Plan (AMP) to ensure efficient, effective and optimal management, operation and maintenance of all assets, which includes treatment plants, reservoirs, structures, buildings, pipelines, sites, etc. - This plan must be based on the principle of preventative maintenance in order to ensure that, as far as this is practical, damage to assets is prevented before it occurs. The municipality needs to ensure that the maintenance and rehabilitation plan is part of the WSDP and that the plan is implemented. Assets must be rehabilitated and / or replaced before the end of their economic life and the necessary capital funds must be allocated for this purpose. Priority should be given to rehabilitating existing infrastructure as this generally makes best use of financial resources and can achieve an increase in (operational) services level coverage's most rapidly. The preparation of maintenance plans and the allocation of sufficient funding for maintenance are required to prevent the development of a large condition backlog. The potential renewal projects for the water infrastructure need to be identified from the Asset Register. All assets with a condition grading of "poor" and "very poor" need to be prioritised. - The O&M Budget allocated towards repairs and maintenance should include the replacement of malfunctioning and old bulk water meters and consumer water meters, clearing of meter chambers, buying replacement mechanisms for bulk water meters, speedy repair of leaks, leak detection in areas with high water losses and NRW and higher than expected night flows, etc.	Additional budget should be allocated towards the repairs and maintenance of the existing water infrastructure. The additional budget should be determined by the municipality once an AMP is developed. A budget of approximately 1% to 2% of the value of the system is typically required for the operations and maintenance of the system to ensure that the system remains in good condition. An estimated budget for the drafting of an AMP for all the water and sewerage infrastructure is R650 000.
Item 11: Dedicated WC/WDM Support	
The municipality should allocate at least one (1) person to head WC/WDM for a start. The number of people involved with WC/WDM measures can later be increased as and when required.	The municipality may be able to use one of their existing staff members. If a new person has to be appointed the municipality can determine the costs involved with such an appointment.
Item 12: Active Leakage Control	
- Leakage control of the reticulation network; - Leak detection; and - Repair of leaks once identified.	R200 000 to undertake leak detection in zones with high excess night flows. In addition allocate approximately R125 000 per year for general visual leak inspections.
Item 13: Sectorization of Reticulation Systems	
The billed metered data, which is currently linked to the distribution systems, should also be linked to the different reservoir zones in the future where possible, in order to	The estimated cost for the logging of flows and pressures for zones with

Table C.5.9: WC/WDM Strategy as included in the approved WSDP	
Recommendation and Strategy	Funding and Budget Requirements
accurately determine the NRW and water losses for the specific reservoir zones. Faulty bulk water meters need to be replaced and new meters need to be installed for the reservoirs and pump stations with no bulk water meters. - The Financial Department needs to continue to provide the billed metered consumption data separately for each of the systems. - Night flows need to be measured for zones with expected high water losses. It is recommended to re-log the night flows every few years to determine if there was an increase in leakage.	expected high water losses is R300 000. The logging exercise should be repeated at least every three years. A budget should be allocated to investigate and resolve possible zone interconnections. It is however difficult to price such investigations at this stage.
Item 14: Effective Bulk Metering Management System	
- All bulk water meters at existing WTWs, reservoirs and pump stations need to be read and recorded on at least a weekly basis. - The Hoops River raw water meter needs to be repaired or replaced. - All bulk water meters need to be installed in lockable meter chambers and reservoir sites and water pump stations need to be secured in order to prevent unauthorised access and possible damage to the water meters. - New bulk water meters need to be correctly installed. Ideally a straight pipe section upstream of the meter of at least 5x the meter dia. and 3x the meter dia. downstream of the meter. Strainers need to be installed to protect the meters. These strainer elements must be removable from the top, for ease of cleaning. Gate valves are required for maintenance before and after meters. - Every informal area with communal services to be supplied with a bulk water meter in order to determine the unbilled metered consumption. All discrete zones are to be supplied with a bulk water meter. The meter readings must be recorded on at least a weekly basis. The readings can be used to quantify both the water supplied and the leakage for a specific area.	Allow an annual budget of approximately R200 000 for the installation of new bulk water meters, the replacement of faulty bulk water meters and to adequately protect existing bulk water meters.
Item 15: Effective Zone Meter Management and Assessment of Night Flows	
See recommendations under Item 14.	See funding and budget requirements included under Item 14.
Item 16: Pressure Management	
Further analysis will be required to determine the exact scope, potential cost and viability for pressure management implementation in each of the areas. A total of eight possible areas were identified. Pressure management should be implemented in selected areas if found to be feasible.	An estimated budget of R300 000 is required for a detailed analysis to determine the exact scope for pressure management.
Item 17: As-built drawings of bulk and reticulation infrastructure	
Continue with the updating of as-built drawings on an ongoing basis. Continue also with the regular updating of the Water and Sewer Master Plans.	Allow a budget of approximately R1.25 million for the updating of the Water and Sewer Master Plans every five years.
Item 18: Schematic layouts of water reticulation systems	
Municipality needs to continue to update the schematic layouts on a regular basis, in order to ensure they remain accurate.	None
Item 19: Regulation and Bylaws	
The Water Bylaw needs to be enforced and adequate human resources need to be allocated for this purpose.	No additional budget or funding requirements.
Item 20: Tariffs	
See Section 7.3 under Topic 7 of the WSDP.	Financial study to determine the impact of changing the sanitation tariff structure from a fixed monthly amount, which is also not based on the number of toilet pans, to a stepped tariff based on water consumption in the future. Estimated cost R250 000.
Item 21: Technical Support to Customers	
The objective of a Technical Support programme is not limited to assisting consumers in reducing their water demand, but is also to look at wastewater, monitor compliance with by-laws and service conditions and offer general customer support. Once a dedicated person has been allocated to WC/WDM it is recommended to engage with large customers and to identify areas where the municipality can provide assistance.	No additional funding – pending the appointment of a dedicated person for WC/WDM.
Item 22: Removal of Un-authorised Connections	

Table C.5.9: WC/WDM Strategy as included in the approved WSDP	
Recommendation and Strategy	Funding and Budget Requirements
Langeberg Municipality should continue to remove un-authorised connections as and when they are detected. See Section 5.1.1.5 under Topic 5 of the WSDP.	Estimated budget of R1 817 500 is required to install water meters at the unmetered erven.
Item 23: Community Awareness on WDM	
See Section 5.1.3 under Topic 5 of the WSDP	It is estimated that R120 000 / year should be allocated for WC/WDM awareness campaigns and activities, material to be included with monthly water bills, placing notices in newspapers, billboards, competitions, etc.
Item 24: Schools Education on WDM	
See Section 5.1.3.1 under Topic 5 of the WSDP	It is estimated that a budget of R50 000 per year should be allocated for the establishment of a schools education programme in Langeberg Municipality. The DWS can also assist the municipality with pamphlets and posters on WC/WDM initiatives.
Item 25: Retrofitting	
See Sections 5.1.2.1 and 5.1.2.2 under Topic 5 of the WSDP	Leak repair assistance programmes: R250 000 per annum for ongoing exercise to repair leakages at indigent properties using in excess of 20 kl/month. WSIG funding or "War on Leaks" funding from DWS can be requested in this regard. Retrofitting: R300 000 for a pilot project in one of the public buildings.

Progress made with the installation of water efficient devices:

The Municipality haven't yet made any progress with the installation of water efficient devices.

C.6. Water Services Infrastructure Management

Langeberg Municipality's existing Asset Register needs to be updated to also include the CRC of the water and sewerage infrastructure. The Municipality needs to ensure that all current water and sewerage infrastructure are included in the Asset Register. The tables below give an overview of the water and sewerage assets currently included in the Asset Register.

Water Infrastructure: The opening costs and carrying values of the water infrastructure included in Langeberg Municipality's current Asset Register is summarised in the table below (June 2025).

Asset Type	Opening Costs	Carrying Values	% Carrying value / Opening Cost
Dam	R9 016 525	R7 439 175	83%
Water Pump Stations	R26 438 694	R17 027 346	64%
Reservoirs	R45 731 096	R34 374 010	75%
Boreholes	R658 903	R437 385	66%
Water Pipelines	R99 405 624	R84 653 128	85%
WTWs	R34 779 593	R16 504 363	47%
Total	R216 030 435	R160 435 407	74%

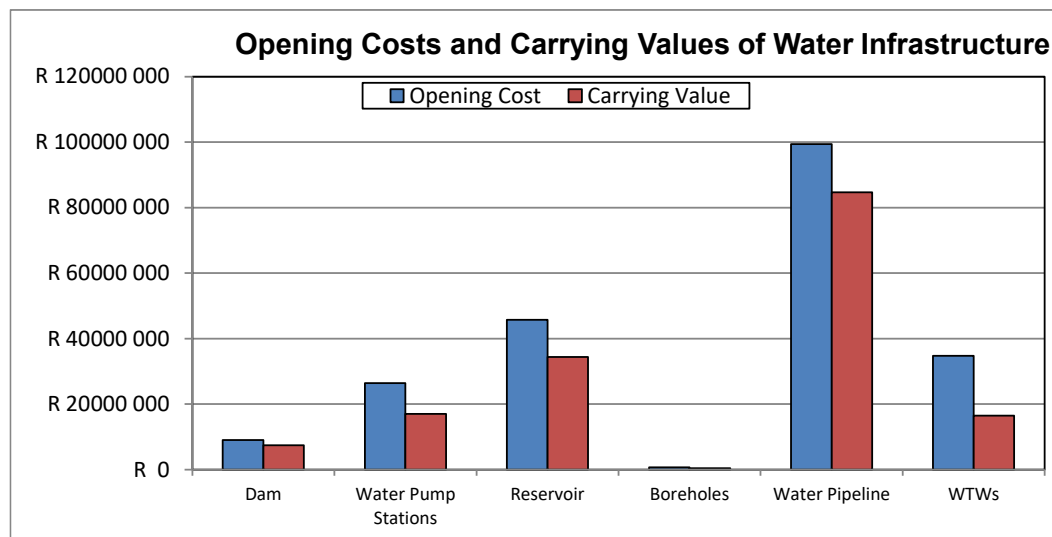


Figure C.6.1: Opening costs and carrying values of the water infrastructure

The percentage carrying value over opening cost indicates that 26% of the value of the water infrastructure has been consumed.

The table and graph below give an overview of the RUL distribution by facility type for the water infrastructure (June 2025).

Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Dam	R767 295	R54 720	R382 669	R1 978 897	R5 832 944
Water Pump Stations	R3 834 659	R7 132 596	R4 387 639	R6 720 296	R4 363 504
Reservoirs	R1 582 025	R1 949 888	R745 879	R14 554 258	R26 899 046
Boreholes	R33 353	R0	R625 550	R0	R0
Water Pipelines	R6 102 526	R4 942 324	R11 192 776	R11 795 558	R65 372 440
WTWs	R12 386 662	R849 930	R1 445 173	R2 041 556	R18 056 272
Total	R24 706 520	R14 929 458	R18 779 686	R37 090 565	R120 524 206

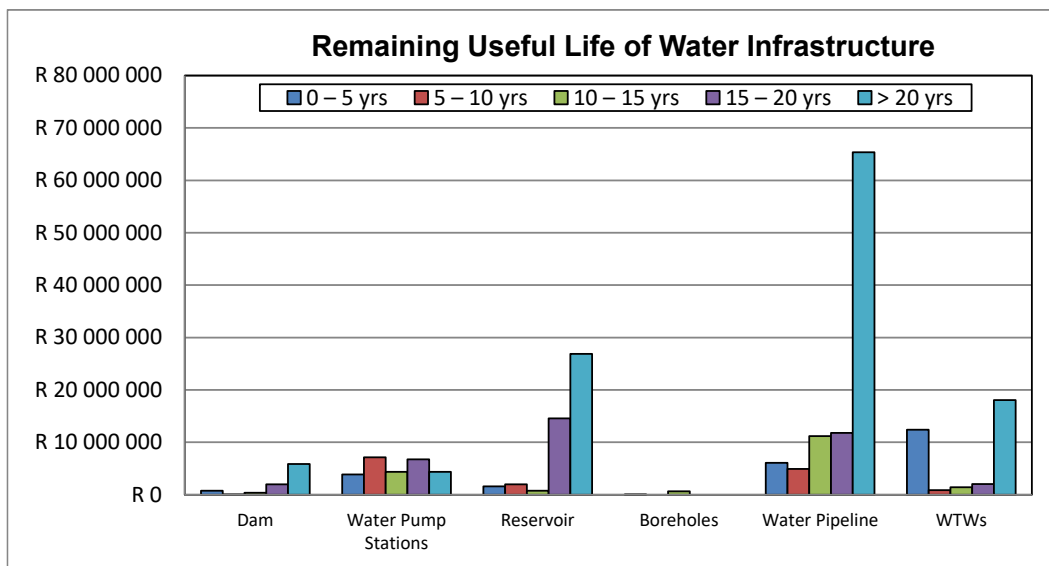


Figure C.6.2: RUL distribution of the water infrastructure

The table and graph below give an overview of the age distribution by facility type for the water infrastructure (June 2025).

Table C.6.3: Overview of the age distribution by facility type for the water infrastructure (Opening Costs)					
Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Dam	R0	R154 620	R4 480 193	R8 479	R4 373 233
Water Pump Stations	R6 639 996	R13 668 790	R1 735 270	R1 599 989	R2 794 649
Reservoirs	R13 064 321	R18 585 913	R477 255	R8 084 492	R5 519 115
Boreholes	R0	R625 550	R22 378	R10 975	R0
Water Pipelines	R11 476 326	R41 474 775	R27 909 968	R5 716 661	R12 827 894
WTWs	R728 990	R3 488 153	R20 767 628	R1 393 559	R8 401 263
Total	R31 909 633	R77 997 801	R55 392 692	R16 814 155	R33 916 154

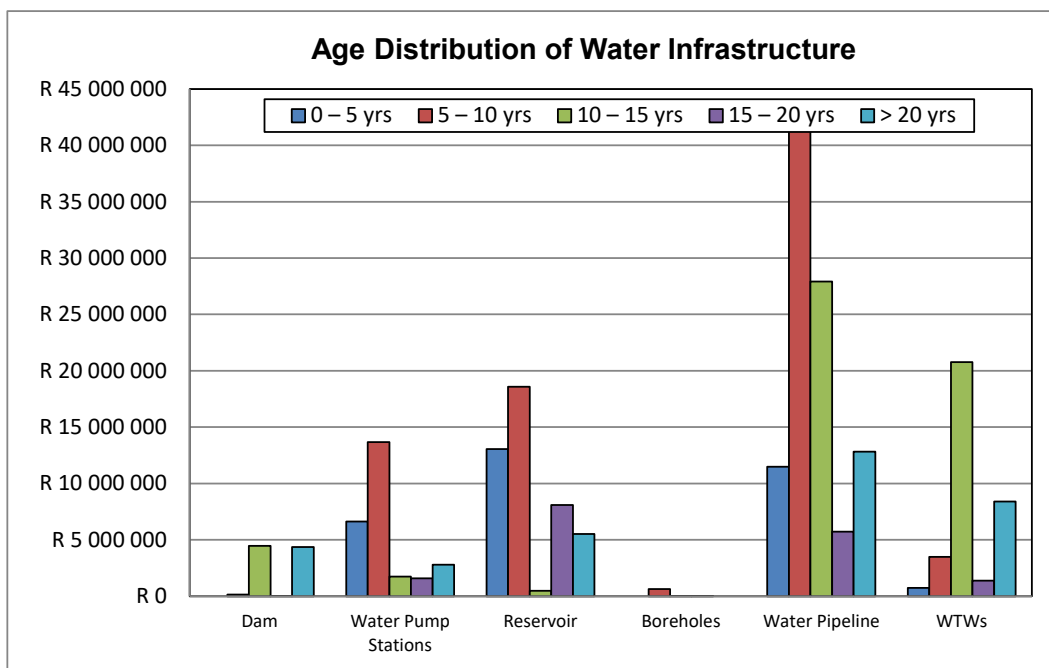


Figure C.6.3: Age distribution of the water infrastructure

The table and graph below give an overview of the condition grading by facility type for the water infrastructure (June 2025).

Asset Type	Very Good	Good	Fair	Poor	Very Poor
Dam	R6 741 543	R2 055 396	R198 108	R2 779	R18 699
Water Pump Stations	R20 083 179	R2 453 031	R3 487 620	R141 027	R273 837
Reservoirs	R32 837 775	R3 933 319	R7 903 915	R9 217	R1 046 870
Boreholes	R658 903	R0	R0	R0	R0
Water Pipelines	R74 551 330	R1 211 070	R21 982 464	R1 299 477	R361 283
WTWs	R24 985 533	R2 335 910	R6 737 582	R32 694	R687 874
Total	R159 858 263	R11 988 726	R40 309 689	R1 485 194	R2 388 563

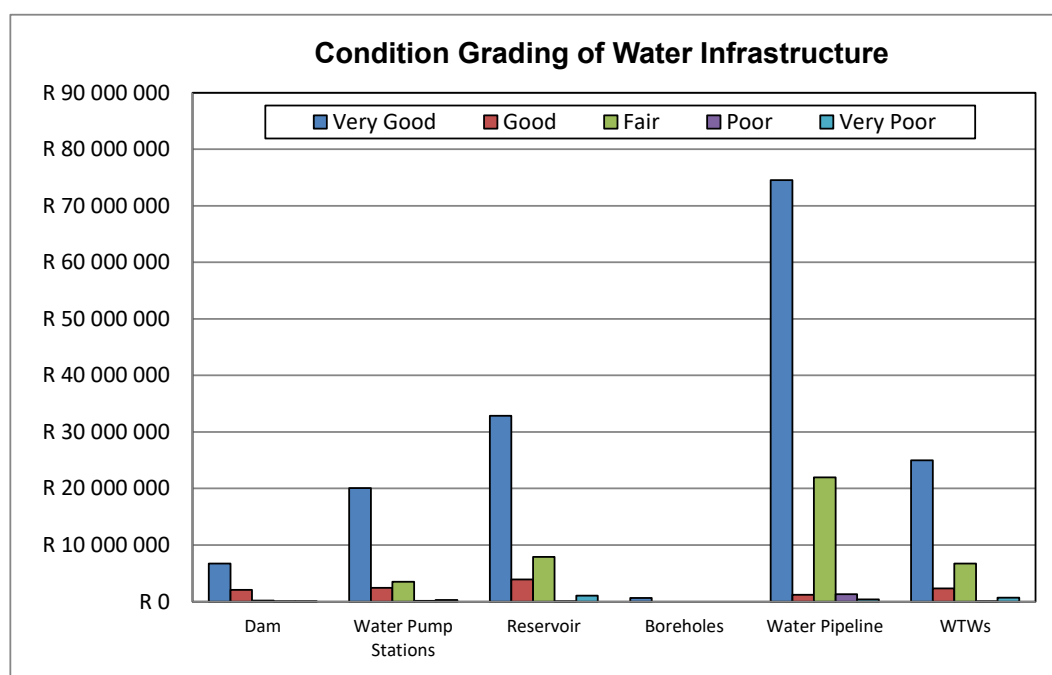


Figure C.6.4: Condition grading of the water infrastructure

The asset renewal needs for the water infrastructure assets over the next 10 years is R3.964 million per year. The reinvestment required is R24.707 million in the first 5 years and R14.929 million in the second 5-year period. The age of 15.70% of the water infrastructure assets is greater than 20 years. The condition of 1.79% of the water infrastructure assets is poor or very poor.

Sewerage Infrastructure: The opening costs and carrying values of the sewerage infrastructure of Langeberg Municipality is summarised in the table below (June 2025).

Asset Type	Opening Costs	Carrying Values	% Carrying Value / Opening Cost
Toilet Facilities	R1 881 183	R989 153	53%
Sewer Pump Station	R21 753 165	R16 595 837	76%
Sewer Reticulation Pipeline	R53 495 381	R59 681 302	112%
WTWs	R57 254 006	R32 812 577	57%
Totals	R134 383 735	R110 078 869	82%

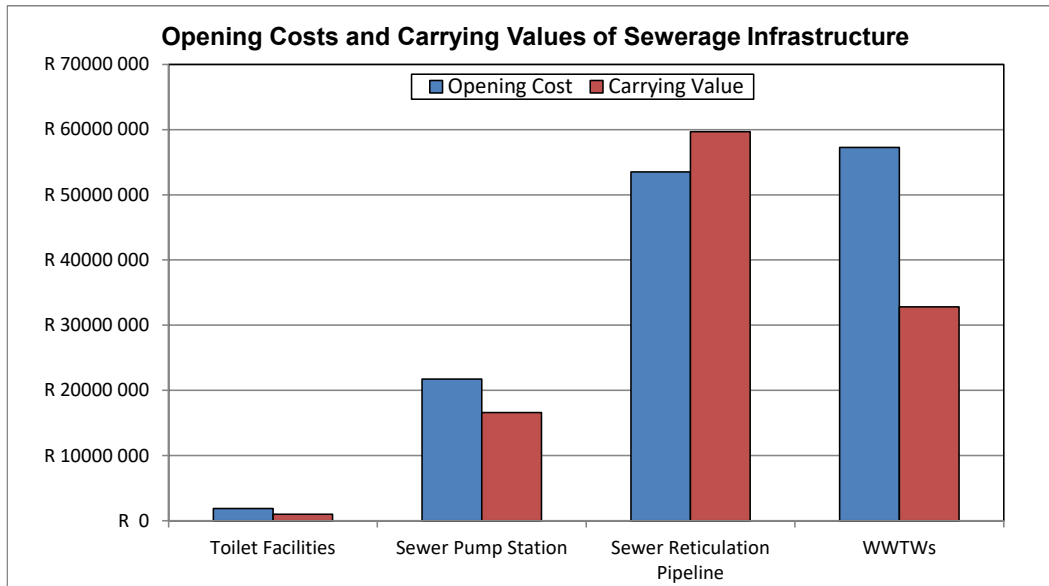


Figure C.6.5: Opening costs and carrying values of the sewerage infrastructure

The percentage carrying value over opening cost indicates that 18% of the value of the sewerage infrastructure has been consumed.

The table below gives an overview of the RUL distribution per facility for the sewerage infrastructure (June 2025).

Table C.6.6: Overview of the RUL distribution by facility type for the sewerage infrastructure (Opening Costs)					
Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Toilet Facilities	R244 978	R618 649	R0	R278 924	R738 632
Sewer Pump Station	R2 705 680	R400 516	R6 935 047	R10 332 628	R1 379 294
Sewer Reticulation Pipeline	R2 239 137	R293 811	R17 103 494	R9 707 128	R24 151 811
WWTWs	R11 486 948	R11 343 119	R1 139 635	R2 393 641	R30 890 663
Totals	R16 676 743	R12 656 095	R25 178 176	R22 712 321	R57 160 400

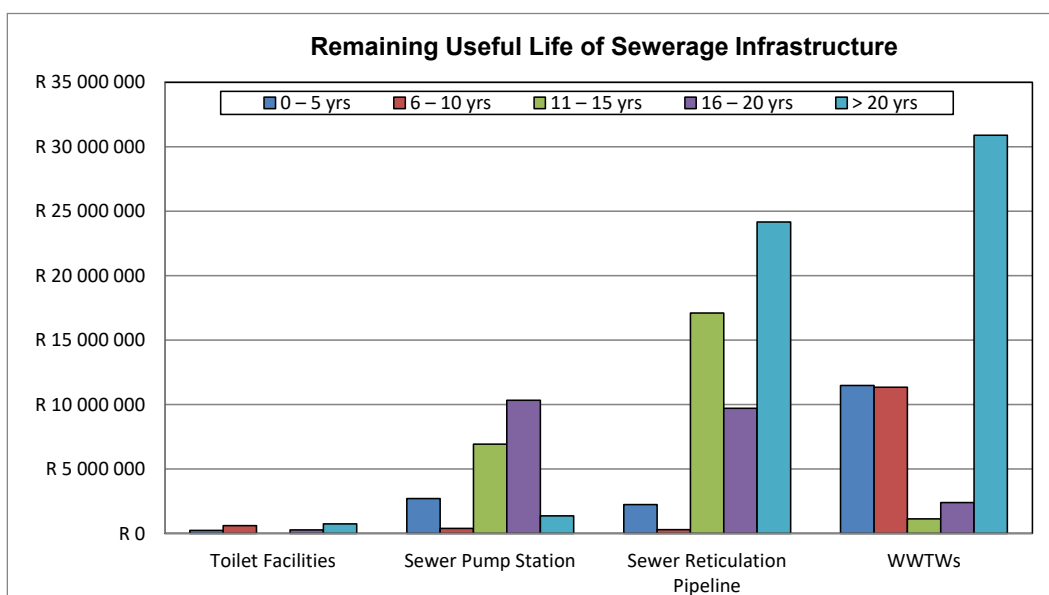


Figure C.6.6: RUL distribution of the sewerage infrastructure

The table below gives an overview of the age distribution per facility for the sewerage infrastructure (June 2025).

Asset Type	0 – 5 yrs	6 – 10 yrs	11 – 15 yrs	16 – 20 yrs	> 20 yrs
Toilet Facilities	R0	R0	R1 588 990	R0	R292 193
Sewer Pump Station	R10 105 647	R7 068 015	R1 483 454	R1 562 234	R1 533 815
Sewer Reticulation Pipeline	R6 025 590	R28 663 270	R4 261 513	R2 217 010	R12 327 998
WWTWs	R1 362 835	R24 529 084	R15 660 134	R9 807 345	R5 894 608
Totals	R17 494 072	R60 260 369	R22 994 091	R13 586 589	R20 048 614

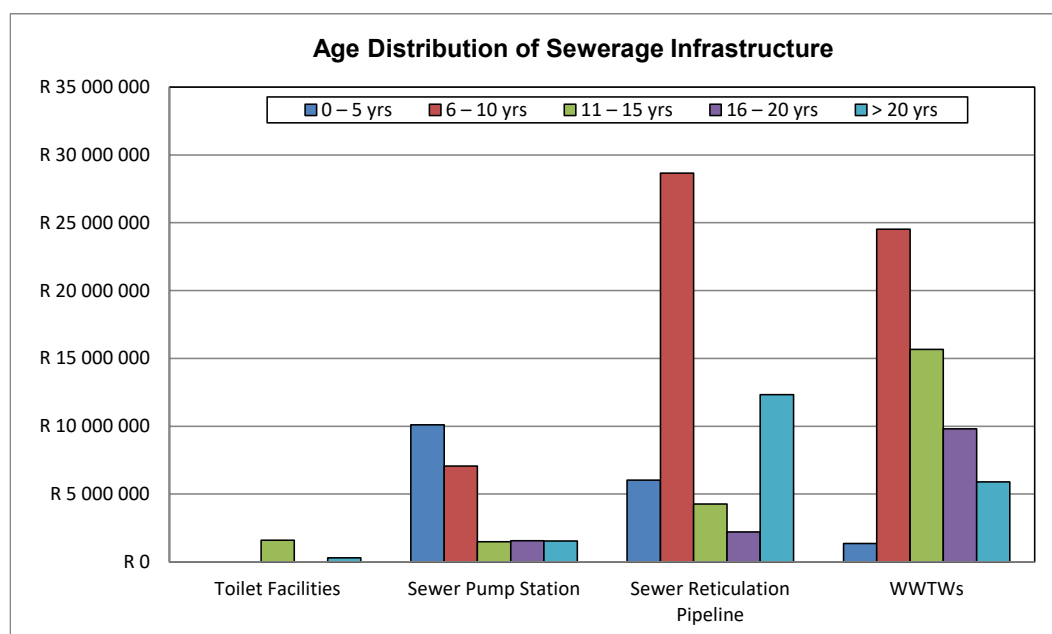


Figure C.6.7: Age distribution of the sewerage infrastructure

The table below gives an overview of the condition grading per facility for the sewerage infrastructure (June 2025).

Asset Type	Very Good	Good	Fair	Poor	Very Poor
Toilet Facilities	R1 403 387	R338 063	R139 733	R0	R0
Sewer Pump Station	R19 132 777	R1 307 496	R871 761	R334 115	R107 016
Sewer Reticulation Pipeline	R42 821 012	R3 920 127	R6 615 287	R0	R138 955
WWTWs	R52 218 685	R2 220 279	R2 300 881	R371 906	R142 255
Totals	R115 575 861	R7 785 965	R9 927 662	R706 021	R388 226

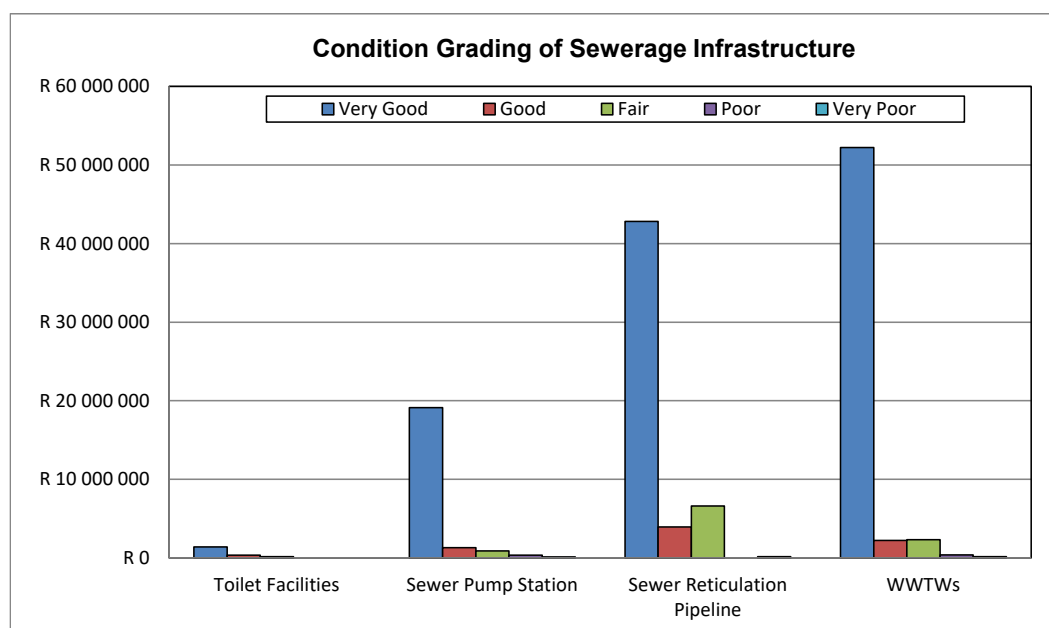


Figure C.6.7: Condition of the sewerage infrastructure

The asset renewal needs for the sewerage infrastructure assets over the next 10 years is R2.933 million per year. The reinvestment required is R16.678 million in the first 5 years and R12.656 million in the second 5-year period. The age of 14.92% of the sewerage infrastructure assets is greater than 20 years. The condition of 0.81% of the sanitation infrastructure is poor or very poor.

Some of the key challenges of Langeberg Municipality are to identify adequate funds for the rehabilitation and maintenance of their existing infrastructure, which is critical to ensure the sustainability of the services that are provided by the Municipality. It is important for the Municipality to secure adequate funding for major refurbishment and maintenance work, the provision of bulk infrastructure and development of additional sources for Bonnievale, Montagu, Ashton and Robertson in order to keep up with the high demand for services.

C.7. Water Services Operation and Maintenance

Langeberg Municipality implements the following planned and unplanned preventative and corrective maintenance, as summarised in the table below.

Table C.7.1: Types of Planned and Unplanned Preventative and Corrective Maintenance Implemented by Langeberg Municipality	
Design-out Maintenance: Design-out Maintenance originates on the drawing board and is aimed at improving the operation, reliability or capacity of equipment. The engineer follows a life cycle approach to infrastructure development.	
Preventative Maintenance: Preventative maintenance is based on planning. For example, breakdowns at a plant can be reduced to a minimum if it is planned that all wearing parts are to be replaced before they fail.	Systematic (Periodic Maintenance): Systematic maintenance is periodic maintenance where the servicing of equipment takes place at regular intervals, either in accordance with a time schedule or on the basis of predetermined units of use, to eliminate possible causes of failure before a breakdown occurs. Systematic maintenance requires a servicing schedule, which is based on the manufacturer's guidelines for equipment.
	Condition-based (Predictive) Maintenance: Condition-based maintenance is predictive maintenance based on regularly inspecting equipment and infrastructure in order to assess the state of wear and tear. Any failures that are observed, complemented by the findings of the programmed inspections and checks, are then dealt with through corrective action, so as to avoid breakdowns or the deterioration of a condition that could pose a safety hazard.
Corrective or Breakdown Maintenance: It is important to work methodically to keep repair time as short as possible.	Planned (Scheduled Repairs)
	Unplanned repairs guided by Troubleshooting: Troubleshooting is used

Table C.7.1: Types of Planned and Unplanned Preventative and Corrective Maintenance Implemented by Langeberg Municipality	
Good work preparation, use of correct (and well maintained) tools and equipment, and gathering and processing of all data relevant to the repairs helps to avoid downtime, eliminate mistakes and improve operational conditions.	when poor condition causes either total or partial stoppages, or when operations take place under intolerable conditions.

Langeberg Municipality's operation and maintenance assessments and plans for their water and sewerage infrastructure are indicated in the table below.

Table C.7.2: Langeberg Municipality's Operation and Maintenance Assessments and Plans		
Element	Assessment Criteria	Status Quo
Resources		
Staff	Sufficient staff numbers. Competency level of staff at all levels. Level of service provided by staff. Empowerment and training (Adequately trained for position, Safety regulation and Commitment). Responsibility allocation (organisational structure) and acceptance thereof.	Below minimum requirement: Additional Process Controllers need to be appointed to comply with the legislative requirements with regard to the number and Class of Process Controllers per Class of WTW and WWTW (Regulation 3630). Work Place Skills Programme is compiled annually to ensure adequate training of staff. The Technical Staff Capacity (Numbers) KPI was indicated as "moderate" vulnerability in the 2024 MuSSA assessment.
External Resources	Need for external resource providers. Competency level and value for money. Management and control over these providers.	Not applicable: All Water Service Provider functions are currently done internally by Langeberg Municipality.
Spare Parts	Adequate materials provisioning. Store management (Sufficient stock kept, stock control and delivery time).	Adequate: Municipality ensures adequate spare parts are available in their stores for possible failures or breakdowns. Monitored by the Engineering Services Directorate.
Tools and Equipment	Adequate tools and equipment provided. Control and maintenance.	Adequate: Municipality ensures adequate tools and equipment are available. Monitored by the Engineering Services Directorate.
Budget	Adequate budget provided. Budget control. Identification and documentation of needs. Budget preparation and motivation.	Below Minimum Requirement: Required Financial Strategies, Policies and Systems are in place to ensure proper budget control. Budget allocated towards the rehabilitation and maintenance of the existing water and sewerage infrastructure to be increased.
Information		
Manuals	Existence of manuals (operation / maintenance or manufacturer). Record keeping / safekeeping and control. Utilisation of manuals by staff.	Adequate: O&M Manuals are in place for the bulk water and sewerage infrastructure. These Manuals are also used by the Process Controllers at the plants.
Asset Register	Existence of an asset register. Maintenance / updating of asset register. Accessibility of information. Control over assets. Stock taking.	Below minimum requirement: The current Asset Register for the water and sewerage infrastructure indicates the Openings Costs and the Carrying Values. The RUL, Age and Condition of the infrastructure are also included in the Asset Register. The Asset Register is updated annually. The CRC of the water and sewerage infrastructure also need to be indicated. An Asset Management Plan needs to be compiled to ensure efficient, effective and optimal management, operation and maintenance of all assets. The Financial Asset Management KPI was indicated as "extreme" vulnerability in the 2024 MuSSA assessment.
As-built Information	Existence of as-built drawings. Existence of important reports e.g. design reports etc. Record keeping / safekeeping and control. Accessibility of information. Updating of records.	Adequate: As-built information is available for all the water and sewerage infrastructure. The information was again updated when the Water and Sewer Master Plans were updated during the 2024/2025 financial year.
Tools and Equipment	Existence of information on tools and equipment. Record keeping / safekeeping and control. Accessibility of information.	Adequate: Municipality ensures adequate tools and equipment are available. Monitored by the Engineering Services Directorate.
Contingency and Safety Plans	Compliance to safety requirements. Safety equipment and maintenance thereof. Existence of safety plan where required. Existence of contingency plan where required.	Adequate: Water Safety Plans and W ₂ RAPs are in place for all the areas. WTW and WWTW Process Audits are done when required. Incident Management Protocols, as included in the Water Safety Plans and W ₂ RAPs, are followed by the personnel.

Table C.7.2: Langeberg Municipality's Operation and Maintenance Assessments and Plans		
Element	Assessment Criteria	Status Quo
Activity Control and Management		
Procedures	Existence of procedures for all activities. Existence of policies – standardisation, quality, operational and maintenance, etc. Correctness of procedures – if in place.	Adequate: Required Procedures and Policies are in place. Procedures and Policies with regard to the water and sewerage infrastructure are managed by the Engineering Services Directorate.
Record Keeping	Existence of record keeping system. Process of data. Actions activated.	Minimum requirement and can be improved further: Record keeping of information required for the Monthly Reports are kept up to date. The record keeping of certain information is also linked to specific water and sanitation KPIs in the SDBIP. Municipality to implement recommended O&M Control Sheets for groundwater, surface water, bulk water and reticulation networks and fittings, WTWs, WWTWs, water and sewer PSs, reservoirs, remote monitoring and control systems and bulk and sewer drainage networks, as indicated in the new WSDP.
Quality Controls	Quality management plan. Quality assurance. Quality control (Inspections, Control charts, trend analysis). Process adjustment and rework. Quality improvement.	Adequate: Required quality control mechanisms are in place to ensure high quality of materials and to ensure that all work carried out on the water and sewerage infrastructure is of a high quality. The Engineering Services Directorate monitors all work carried out by Consultants and Contractors.
Risk Management	Risk management planning. Risk identification. Risk probability and impact assessment. Risk response planning. Risk monitoring and control.	Adequate: Required Risk Management Protocols are in place, which is followed by the personnel. Potential risks/incidents and control measure to reduce or manage these risks were identified as part of the Water Safety Plan and W ₂ RAP processes.
Reporting	Production and activity reporting (Completeness, evaluation and action activation). Management reporting (Completeness and evaluation and action activation). Performance monitoring.	Adequate: The Manager Civil Engineering Services report on a monthly basis to Management and the Council on all the required water and sanitation information. A SDBIP is also in place, linked to specific water and sanitation KPIs, which allows for proper performance monitoring.

Pipe bursts and other serious damage to pipes immediately interrupts services to the affected area and is rapidly addressed by Langeberg Municipality. O&M is a continuous process for Langeberg Municipality involving various activities, with the ultimate purpose of delivering good quality services to all customers at all times and keeping the percentage of water lost through pipe bursts and other serious damage to pipes as low as possible. Langeberg Municipality's O&M Plan depends on a range of factors such as the age and condition of the water supply system, requirements of the Municipality and DWS as the regulating authority, the availability of staff, plant, equipment, spares, money and other resources.

Langeberg Municipality has standby teams available after hours and over weekends, besides the planned and scheduled O&M activities, in order to allow for unscheduled responses to service breakdowns due to malfunctioning equipment, vandalism, emergency situations, etc. This allows Langeberg Municipality to be able to quickly assess service breakdowns and re-allocate staff and resources to do unscheduled repairs, and then quickly return to the regular and scheduled O&M activities. The Municipality ensures that sufficient repair materials, consumables and back-up equipment are also readily available for any potential breakdowns.

A budget of approximately 2% of the total asset value per annum should be allocated towards the replacement of existing infrastructure. In the case of the operations and maintenance of the systems, a budget of approximately 1% to 2% of the value of the system is typically required to ensure that the systems remain in good condition.

The table below gives an overview of the Opening Costs and Carrying Values of the water and sewerage infrastructure included in Langeberg Municipality's Asset Register (June 2025). The recommended budgets for the replacement of the existing infrastructure and the operation and maintenance of the existing infrastructure, based on the CRC of the water and sewerage infrastructure included in the WSDP, are also indicated.

Table C.7.3: Recommended budgets for the replacement and the operation and maintenance of the existing water and sewerage Infrastructure.					
Asset Type	Asset Register June 2025		CRC (Estimated 24/25 Value calculated from 2020 WSDP CRC)	Required Annual Replacement Budget	Required Annual O&M Budget
	Opening Costs	Carrying Values		2.0% of CRC	1.5% of CRC
Dam	R9 016 525	R7 439 175	R5 554 899	R111 098	R83 323
Water Pump Stations	R26 438 694	R17 027 346	R77 906 191	R1 558 124	R1 168 593
Reservoir	R45 731 096	R34 374 010	R135 418 329	R2 708 367	R2 031 275
Boreholes	R658 903	R437 385	R722 137	R14 443	R10 832
Bulk and Reticulation pipelines	R99 405 624	R84 653 128	R389 741 787	R7 794 836	R5 846 127
WTWs	R34 779 593	R16 504 363	R441 690 189	R8 833 804	R6 625 353
Sub Total Water	R216 030 435	R160 435 407	R1 051 033 531	R21 020 671	R15 765 503
Toilet Facilities	R1 881 183	R989 153	-	-	-
Sewer Pump Station	R21 753 165	R16 595 837	R50 419 542	R1 008 391	R756 293
Sewer Reticulation Pipeline	R53 495 381	R59 681 302	R501 173 054	R10 023 461	R7 517 596
WWTWs	R57 254 006	R32 812 577	R280 648 628	R5 612 973	R4 209 729
Sub Total Sewerage	R134 383 735	R110 078 869	R832 241 224	R16 644 824	R12 483 618
Total Water and Sewerage	R350 414 170	R270 514 276	R1 883 274 756	R37 665 495	R28 249 121

The average annual capital expenditure over the last six financial years was R9 994 969 for water infrastructure and R17 996 571 for sewerage infrastructure, which include the replacement of old infrastructure and new infrastructure. Compared to the required replacements budgets indicated in the table above it can be noted that the current budget allocations towards the replacement / refurbishment of old water and sewerage infrastructure are insufficient.

Most of the major replacement of old water and sewerage infrastructure in Langeberg Municipality is done through the Municipality's annual capital budget. The capital budget however also includes new infrastructure. The table below gives an overview of the total historical water and sewerage capital expenditure for the last six financial years.

Table C.7.4: Historical water and sewerage capital expenditure per financial year						
Infrastructure	24/25	23/24	22/23	21/22	20/21	19/20
Water	R13 785 765	R3 537 897	R15 233 437	R20 576 028	R5 634 206	R1 202 478
Sewerage	R38 241 158	R35 428 629	R20 652 218	R13 148 100	R189 940	R3 193 823
Total	R52 026 923	R38 966 526	R35 885 655	R33 724 128	R5 824 146	R4 396 301

C.8. Water Resources

The Western Cape experienced a severe drought over the period 2015 to 2017, with some relief during the winter months of the following years. This drought over the period 2015 to 2017 reduced the safe yields of the Municipality's own existing surface water resources. The Municipality therefore continued with the implementation of specific WC/WDM measure to lower the current water requirements and the augmentation of the existing water sources of Montagu with groundwater.

Future water requirement projection models were developed for each of the towns within Langeberg Municipality's Management Area, which are included in Annexure B. IWA Water Balance models with graphs of the total water requirements (bulk raw water volumes, system input volumes and billed metered consumption), peak month factors, annual treatment losses, NRW, water losses and water usage per sector are included in Annexure A for each of the systems.

The future water requirement projection models include the future projections up to 2049 and were calibrated by using the historical IWA Water balance data. The percentage of NRW was determined for each of the distribution systems and growth in future water requirement was based on agreed population and growth figures. The table below gives an overview of the years in which the annual water requirement will exceed the allocations or sustainable yields of the various resources.

Table C.8.1: Years in which the annual water demand is likely to exceed the total allocations / yields from the various resources				
Distribution System	Total Allocation / Yield (x 10 ⁶ m ³ /a)	Annual Growth on 2024/2025 Demand (Percentage growth)	Annual Growth on 2024/2025 Demand (Percentage growth)	WSDP Projection Model
Robertson	3.265 (Yield)	2025 (1.5%)	2025 (3.0%)	2025
McGregor	1.200 (Allocation)	>2049 (1.5%)	>2049 (3.0%)	>2049
Bonnievale	1.245 (Allocation)	Over (1.5%)	Over (3.0%)	Over
Ashton	2.963 (Allocation)	2046 (1.5%)	2034 (3.0%)	2034
Montagu	1.490 (Yield)	2025 (1.5%)	2025 (3.0%)	2025
Ashton and Montagu	4.453 (Yield & Allocations)	2041 (1.5%)	2032 (3.0%)	2029

The immediate augmentation of Robertson, Bonnievale, Montagu and Ashton water sources is critical in order to meet the future water requirements. The allocation for Bonnievale from the Zanddrift WUA canal is already exceeded, as well as the allocations and safe yields of the Montagu sources. The projected future water requirements are indicated in the table below for each of the water distribution systems.

Table C.8.2: Projected future water requirements and yield surplus / shortfall based on WSDP model						
Distribution System	Model	PROJECTED FUTURE WATER DEMANDS (Ml/a)				
		2029	2034	2039	2044	2049
Robertson	1.5% Annual Growth	3 425.224	3 689.940	3 975.113	4 282.325	4 613.281
	3% Annual Growth	3 685.912	4 272.982	4 953.557	5 742.531	6 657.167
	WSDP Model	3 690.103	4 160.044	4 699.644	5 320.496	6 036.298
	Yield surplus / shortfall	425.353	895.294	1 434.894	2 055.746	2 771.548
McGregor	1.5% Annual Growth	373.232	402.076	433.150	466.626	502.689
	3% Annual Growth	401.637	465.608	539.767	625.738	725.402
	WSDP Model	405.560	451.459	503.366	562.165	628.878
	Yield surplus / shortfall	794.440	748.541	696.634	637.835	571.122
Bonnievale	1.5% Annual Growth	2 410.702	2 597.011	2 797.718	3 013.937	3 246.866
	3% Annual Growth	2 594.176	3 007.361	3 486.356	4 041.642	4 685.370
	WSDP Model	2 482.635	2 923.447	3 450.177	4 080.398	4 835.373
	Yield surplus / shortfall	1 237.635	1 678.447	2 205.177	2 835.398	3 590.373
Ashton	1.5% Annual Growth	2 284.092	2 460.616	2 650.782	2 855.645	3 076.341
	3% Annual Growth	2 457.930	2 849.415	3 303.252	3 829.375	4 439.295
	WSDP Model	2 538.994	2 878.566	3 273.773	3 734.980	4 274.632
	Yield surplus / shortfall	423.534	83.962	311.244	772.451	1 312.104

Table C.8.2: Projected future water requirements and yield surplus / shortfall based on WSDP model						
Distribution System	Model	PROJECTED FUTURE WATER DEMANDS (Ml/a)				
		2029	2034	2039	2044	2049
Montagu	1.5% Annual Growth	1 553.054	1 673.080	1 802.382	1 941.677	2 091.738
	3% Annual Growth	1 671.254	1 937.441	2 246.025	2 603.759	3 018.470
	WSDP Model	1 854.665	2 144.864	2 486.765	2 890.147	3 366.698
	Yield surplus / shortfall	365.121	655.320	997.221	1 400.603	1 877.154
Ashton and Montagu	1.5% Annual Growth	3 700.728	3 986.735	4 294.846	4 626.769	4 984.344
	3% Annual Growth	3 982.384	4 616.674	5 351.990	6 204.424	7 192.628
	WSDP Model	4 422.822	5 180.738	6 097.138	7 208.976	8 562.387
	Yield surplus / shortfall	29.251	728.665	1 645.066	2 756.904	4 110.314

The Brief desktop source augmentation study, which was completed in 2014 for Langeberg Municipality for the various towns, recommended the following augmentation options.

Table C.8.3: Potential future source augmentation options (Desktop Study)	
Surface water options	Other potential options
Robertson (After 2020)	
- Further abstraction from the Breede River - Augmentation through the acquisition of additional water from the irrigation sector. - Potential supply from the Greater Brandvllei Dam. - Raising the walls of the existing Dassieshoek Dam to increase the supply yield to Robertson.	- WC/WDM Strategies to reduce losses. - Re-use of water - Groundwater development - Supply from the Keurkloof Dam
McGregor (After 2040)	
- Abstraction from the Keisers River - Abstraction from the Konings River - Abstraction from the Vink River - Supply from the Klipberg Dam	- WC/WDM Strategies to reduce losses. - Groundwater development - Rainwater harvesting
Bonnievale (After 2016)	
- Additional supply from the Zandrifft Irrigation Canal. - Pumping water from the Riviersonderend River. - Further abstraction from the Breede River.	- WC/WDM Strategies to reduce losses. - Re-use of water - Rainwater harvesting
Ashton (After 2022)	
- Additional water from the Cogmanskloof Irrigation Scheme. - Further abstraction from the Breede River.	- WC/WDM Strategies to reduce losses. - Re-use of water - Groundwater development of the TMG aquifer.
Montagu (After 2025)	
- Acquiring additional rights from the CBR scheme and additional abstraction from the Breede River via Ashton. - Abstraction from the Keisie and Kingna Rivers.	- WC/WDM Strategies to reduce losses. - Groundwater development - Re-use of water

Yield and quality testing were done during 2017/2018 for six boreholes in Montagu. The abstraction recommendations for these boreholes are presented in the table below.

Table C.8.4: Abstraction recommendations for Montagu boreholes							
Borehole	Pump Depth (mbgl)	Yield (l/s)	Abstraction duration (hours)	Rest duration (hours)	Maximum water level (mbgl)	Pump Spec Water Level	Possible volume abstracted per day (l)
New BH01	Sand ingress, test had to be stopped						
New BH02	90	2.0	12	12	75	60	86 400
New BH05	90	0.6	18	6	50	30	38 880
Old BH01	125	4.5	16	8	100	80	259 200
Old BH02	115	2.5	14	10	75	50	126 000
Old BH04	115	2.5	14	10	80	65	126 000

The boreholes have been tested individually, not as a well field. Some interconnectivity between the boreholes was recorded at the boreholes in close proximity to each other. During the testing of Old BH02 drawdown of 5 m was observed at proximal boreholes New BH01 and Old BH01.

If the boreholes are to be used simultaneously, the effect between the boreholes can be compounded. Possible negative effects from this will need to be managed through water level monitoring. Through long term monitoring data, abstraction volumes can also be optimised by adjusting the pumping duration.

The water quality ranges between “ideal” and “dangerous”. Selection of the appropriate boreholes for utilisation will require consideration of quality, and potentially include blending of the different water. The Municipality currently continue with the water quality testing of the boreholes.

To facilitate monitoring and informed management of a borehole, it is highly recommended that a borehole be equipped with the following monitoring infrastructure and equipment:

- Installation of a 32 mm (inner diameter, class 10) observation pipe from the pump depth to the surface, closed at the bottom and slotted for the bottom 5 – 10 m. This allows for a ‘window’ of access down the borehole which enables manual water level monitoring and can house an electronic water level logger.
- Installation of an electronic water level logger (for automated water level monitoring).
- Installation of a sampling tap (to monitor water quality)
- Installation of a flow volume meter (to monitor abstraction rates and volumes).

The legal compliance with regard to the use of the groundwater also needs to be addressed with the DWS.

Source Studies: The DWS is currently busy with the updating of the All Towns Reconciliation Strategies for the Western Cape, but updated strategies for Langeberg Municipality are not yet available. The table below gives an overview of the recommended potential future water resources as included in the December 2014 All Towns Reconciliation Strategies for the towns in Langeberg Municipality.

Table C.8.5: Potential future water resources for the various towns (Summary of DWS's All Towns Reconciliation Strategies)	
Distribution System	Recommended Summary Options
Robertson	The current water supply is expected to meet future water requirements in the low-growth scenario but not in the medium- or high-growth scenarios. The following interventions should be considered and the resource options mentioned below are proposed as potential sources to augment the current water supply (In order of priority and sequence): • Full implementation of the WC/WDM Strategy measures. • Utilise present “leiwater” allocations to domestic use. • Re-use of water • Increased allocation from the Greater Brandvlei Government Water Scheme via the Brandvlei Irrigation Canal.
McGregor	The current water supply will meet the future water requirements, even for the high-growth scenario. The following interventions should be considered for implementation, and the following resource options are proposed as potential sources to augment the current water supply beyond 2040 or if required at an early stage (In order of priority and sequence): • Full implementation of the WC/WDM Strategy. • Incremental groundwater development. • Obtaining water use rights from the various small rivers in close proximity of the town. • Rainwater harvesting.
Bonnievale	The current water supply will not meet future water requirements in the low-, medium-and high-growth scenario. The following potential resource interventions should be considered to augment the current water supply (In order of priority and sequence): • Full implementation of the WC/WDM Strategy measures. • Incremental groundwater development. • Additional supply from the Zanddrift irrigation canal. • Re-use of water
Ashton	The current water supply will meet the future water requirements for the low- and medium- growth scenarios if the implementation of the WC/WDM Strategy is successful. The following interventions and resource options

Table C.8.5: Potential future water resources for the various towns (Summary of DWS's All Towns Reconciliation Strategies)	
Distribution System	Recommended Summary Options
	are available as potential sources for augmentation (In order of priority and sequence): • Full implementation of the WC/WDM Strategy. • Groundwater development in the TMG Aquifer. • Additional supply from the Kogmanskloof irrigation scheme. • Additional supply from the Breede River.
Montagu	The current water supply is adequate and a shortfall is expected by 2020 for the medium- and high-growth scenarios. The following potential interventions to augment the current water supply should be considered (In order of priority and sequence): • Full implementation of the WC/WDM Strategy measures. • Incremental groundwater development • Re-use of Water • Additional abstraction from the Breede River via Ashton.

Industrial Effluent Monitoring: Montagu Foods is the only industrial consumer where the quality of the final effluent discharged from the consumer into the Municipality's sewer system is monitored by the Municipality. Montagu Winery monitors the quality of their final effluent themselves and submit the results to the Municipality. **There is an increase in the organic loads at the various WWTWs and the Municipality will start with measures to monitor the quality of effluent discharged by industrial consumers into the municipality's sewer system and industrial consumers will need to pay according to the quality of industrial effluent discharged by them. The licences issued for the various WWTWs also stipulated the requirement for industrial effluent monitoring.**

C.9. Water Services Institutional Arrangements and Customer Services

Langeberg Municipality is the official WSA for the entire Municipal Management Area and also acts as the WSP for the whole area. The list of Civil Engineering Services personnel is included in Annexure G. The Municipality updated their WSDP during the 2024/2025 financial year, which was approved by Council on the 4th of December 2024. WSDP Performance and Water Services Audit Reports are also compiled annually, which are approved by Council with the Municipality's Annual Report. Water Services Bylaws are in place, which cover the provision of services for water supply, sanitation and industrial effluent. The education of users where sanitation facilities are upgraded to waterborne systems and where communal services are provided is on-going. This is primarily focussed at informing users of the appropriate use of and routine maintenance of such facilities. The Municipality rolled out a performance framework within the organisation up until the level of supervision.

All the WTWs and WWTWs in Langeberg Municipality's Management Area and the Process Controllers working at these plants were registered on the IRIS in terms of the new Regulation 3630 requirements. The staff composition for Water and Wastewater Services for the last three financial years, as taken from the Annual Reports, is indicated in the table below.

Table C.9.1: Staff composition for Water and Wastewater Services for the last three financial years												
Job Level	2024/2025				2023/2024				2022/2023			
	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)
	No.	No.	No.	%	No.	No.	No.	%	No.	No.	No.	%
0 – 3	46	38	8	17.39%	40	39	1	2.50%	40	40	0	0.00%
4 – 6	6	6	0	0.00%	6	6	0	0.00%	9	9	0	0.00%
7 – 9	45	43	2	4.44%	42	41	1	2.38%	42	42	0	0.00%
10 – 12	7	6	1	14.29%	7	6	1	14.29%	10	10	0	0.00%
13 – 15	3	3	0	0.00%	0	0	0	0.00%	0	0	0	0.00%

Table C.9.1: Staff composition for Water and Wastewater Services for the last three financial years												
Job Level	2024/2025				2023/2024				2022/2023			
	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)	Budgeted Posts	Employees	Vacancies	Vacancies (as a % of budgeted posts)
	No.	No.	No.	%	No.	No.	No.	%	No.	No.	No.	%
16 – 18	1	1	0	0.00%	1	1	0	0.00%	2	2	0	0.00%
19 - 20	0	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%
Total	108	97	11	10.19%	96	93	3	3.13%	103	103	0	0.00%

Municipal Strategic Self-Assessment (MuSSA): Overseen by the DWS the MuSSA conveys an overall business health of municipal water business and serves as a key source of information around municipal performance. The MuSSA also identifies key municipal vulnerabilities that are strategically important to DWS, the Department of Cooperative Government (DCoG), National Treasury, the planning Commission/Office of the Presidency, the South African Local Government Association (SALGA) and the municipalities themselves. The MuSSA team continues to engage (1) DWS directorates and their associated programmes (e.g. Water Services Development Plan, Water Services Regulation), and (2) other sector departments and their associated programmes (e.g. LGTAS, MISA) to minimize duplication and ensure alignment. Through the tracking of current and likely future performance, the key areas of vulnerability identified, allow municipalities to effectively plan and direct appropriate resources that will also enable DWS and the sector to provide more effective support.

The Spider Diagram below effectively indicates the vulnerability levels of Langeberg Municipality across the eighteen key service areas, as identified through the Municipal Strategic Self-Assessment of Water Services process.

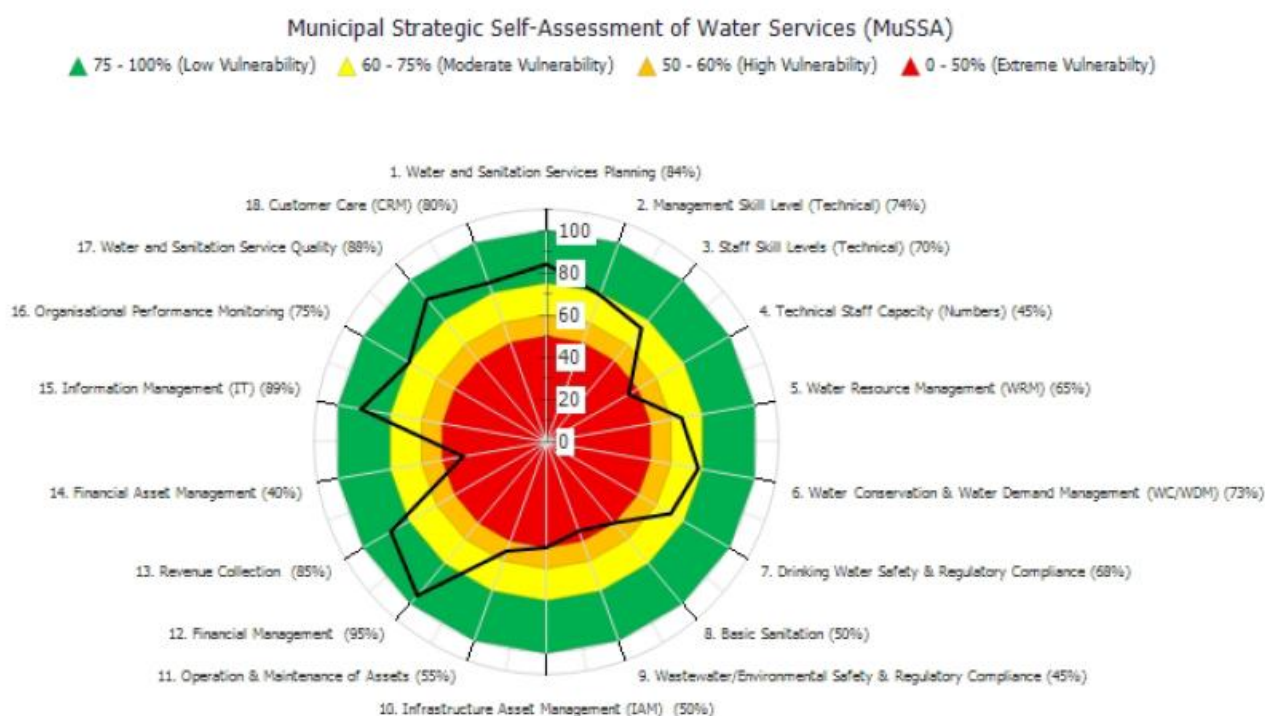


Figure C.9.1: Spider Diagram of the vulnerability levels of Langeberg Municipality for 2024

Langeberg Municipality's Vulnerability Index for 2024 was indicated as 0.58 "High Vulnerability". The areas of concern evident from the 2024 assessment are Financial Asset Management (40.0%, Extreme Vulnerability), Technical Staff Capacity (Numbers) (45%, Extreme Vulnerability), Wastewater/Environmental Safety & Regulatory Compliance (45%, Extreme Vulnerability), Basic Sanitation (50%, High Vulnerability), Infrastructure Asset Management (50%, High Vulnerability) and Operation and Maintenance of Assets (55%, High Vulnerability).

Table C.9.2: Municipal Strategic Self-Assessment (MuSSA) of Water Services for Langeberg Municipality (2024)	
Section	Vulnerability
Water and Sanitation Service Quality - Critical business databases and documents (e.g. as-built drawings, records, manuals, agreements, billing/revenue collection, project and scheme management data, etc.) are current, maintained and stored in secure locations (on-site and off-site, both paper and electronic). - Customers have a functional, reliable and safe water supply system with sufficient quantity and flow, good quality and minimal interruptions. - All consumers served experience interruptions of less than 48 hours (at any given time) and a cumulative interruption time during the year of less than 15 days. - Households in your WSA experience water pressure problems (no flow/partial flow less than 10 litres / minute) (not to be confused with interruption to supply). - Customers have a functional, reliable, dignified and safe sanitation system with no blockages resulting in overflows that impact on the environment, including effective collection and treatment of faecal sludge.	Low (89.0%)
Customer Care - A functional customer service system manned by appropriate customer services representatives and using a complaints register, is in place to address complaints and appropriately inform customers of service interruptions, contamination of water, boil water alert, etc. - Regular municipal wide customer satisfaction surveys are conducted to determine customer satisfaction levels and inform the Customer Care Management Plan. - Please indicate what percentage of the reported water related complaints/callouts are acknowledged, including consumer response, within 24 hours. - Please indicate what percentage of the reported wastewater/sanitation related complaints/callouts are acknowledged, including consumer response, within 24 hours. - A comprehensive customer awareness programme (informing customers of water and wastewater system O&M activities, water quality, resource protection / pollution, reporting incidents / security concerns, etc.) is in place and implemented.	Low (80.0%)
Water and Sanitation Services Planning - Your appropriate water and sanitation services planning (e.g. WSDP) and associated master planning processes include and are aligned with appropriate Water and Sewage Master Plans, Spatial Development Framework, Water Safety Plans and Wastewater Risk Abatement Plans (W₂RAPs), and are aligned to your IDP and associated SDBIP targets. - You are implementing an up-to-date and adopted municipal water and sanitation services plan (e.g. WSDP). - Your current project list addresses existing needs / shortcomings identified through the WSDP and associated master planning process. - Project progress is monitored, tracked and reported to municipal top management / council and the Regulator (through the annual water and sanitation services report). - Projects identified through your various planning processes have been implemented in the last 3 years.	Low (84.0%)
Water Resource Management (WRM) - The recommendations and actions from the Reconciliation Strategies (Large Systems / All Towns) have been incorporated into your WSDP, master planning and IDP processes. - The metered quantity of water available from the resources is sufficient for your future WSA needs (at the stipulated level of abstraction and assurance of supply, and considering possible climate change impacts) (i.e. no shortage in 10 years). - The quantity of water available from the resources is sufficient for your future WSA needs (at the stipulated level of assurance of supply) (i.e. no shortage in 10 years). - The source water quality is currently acceptable for its purpose. - The trend indicates a deteriorating source water quality.	Moderate 65.0%

Table C.9.2: Municipal Strategic Self-Assessment (MuSSA) of Water Services for Langeberg Municipality (2024)	
Section	Vulnerability
WC/WDM - Your WSA has developed a council approved WC/WDM Strategy, which includes a standard water balance (e.g. modified IWA). - Please indicate your percentage Non-Revenue Water (NRW) as per the modified IWA water balance. - System input volumes (bulk) to the WSA are accurately monitored using calibrated bulk meters (e.g. check metering). - Please indicate what percentage of all connections are metered and billed (residential and non-residential (commercial, industrial, etc.)) on a monthly basis. - Your WSA is implementing appropriate intervention programmes to reduce NRW (e.g. minimisation of night flows through pressure management, removal of unlawful connections, leak detection and repairs, consumer education / awareness).	Moderate (73.0%)
Drinking Water Safety and Regulatory Compliance - Please indicate your microbiological drinking- water quality compliance for E.Coli (or faecal coliforms) for the communities you are monitoring for the last 12 months. - ALL your supply schemes, WTWs, process controllers, monitoring programmes, sample points, laboratories, results, procedures, protocols, etc. are managed with a suitable Water Safety Planning framework. - Council have been made aware of high risk / critical water safety plan related issues (including those identified via the Blue Drop Certification programme) that require budget and auctioning, and these issues have been actioned (where applicable). - Sufficient funds have been made available to address all these identified water safety related issues. - Required corrective actions/remedial measures to address all these identified water safety related issues have been successfully implemented.	Moderate (68.0%)
Basic Sanitation - You have formal housing areas that are not fully serviced with sanitation infrastructure. - You have informal housing or rural areas that are not fully serviced with sanitation infrastructure. - You have a detailed plan and programme to provide safe sanitation to all households (including health and hygiene education and user awareness including Water, Sanitation and Health (WASH) aspects). - Your sanitation budget is appropriate for required sanitation programmes (implementation and O&M). - You are servicing your basic sanitation facilities (e.g. pit latrines) as per safe sanitation requirements (healthy, environmentally safe, structurally sound, regularly maintained, following faecal sludge management best practices).	High (50.0%)
Wastewater / Environmental Safety and Regulatory Compliance - Please indicate your treated wastewater effluent compliance for COD for your (or your service provider's) WWTWs for the last 12 months. - ALL your WWTWs, process controllers, monitoring programmes, sample points, laboratories, results, procedures, protocols, etc. are managed with a suitable waste water risk abatement framework. - Council have been made aware of all W₂RAP related issues (e.g. pollution incidents, Green Drop deficiencies) that require budget and auctioning, and these issues have been actioned (where applicable). - Sufficient funds have been made available to address all identified wastewater and environmental safety related issues. - Required corrective actions/remedial measures to address all identified wastewater and environmental safety related issues have been successfully implemented.	Extreme (45.0%)
Infrastructure Asset Management - You have an appropriate and up-to-date water and sanitation services technical Asset Register (includes asset name, location, condition, extent, remaining useful life, performance and risk). NOTE: This does only not refer to GRAP17 asset register requirements. - You have developed an appropriate Infrastructure Asset Management (IAM) Plan for your WSA. - You are implementing the IAM outcomes. - Budget allocated to implement IAM outcomes is sufficient and is being effectively spent. - You conduct annual technical assessments of your water and wastewater related systems (including sources, WTWs, WWTWs, pump stations, network, etc.) and implement required follow-up actions.	High (50.0%)

Table C.9.2: Municipal Strategic Self-Assessment (MuSSA) of Water Services for Langeberg Municipality (2024)	
Section	Vulnerability
Operation and Maintenance of Assets - Appropriate maintenance facility(ies) that is (are) secure and stocked with essential equipment (e.g. spare parts), plant and tools is (are) available. - Appropriate water and sanitation services infrastructure / equipment planned / preventative maintenance schedules are developed. - Appropriate planned / preventative maintenance is performed at all WTWs and associated reservoirs, pump stations and distribution networks. - Appropriate planned / preventative maintenance is performed at all WWTWs and associated collection systems and pump stations. - Please indicate your infrastructure repairs and maintenance costs as a function of total operating expenditure (%).	High (55.0%)
Information Management - You have a developed, approved and implemented IT Master Systems Plan (e.g. covering 3-5 years) that addresses your IT business requirements. - You have a developed, approved and implemented ICT Technology Master Plan that addresses your current and future IT infrastructure requirements. - You have IT systems that support your full range of water and sanitation services business requirements (e.g. billing, GIS, customer care, O&M, asset management). - ICT service continuity – Adequate IT security exists with off-site back-ups / archiving of operation critical applications, databases, data, etc. routinely performed in terms of an IT disaster Recovery Plan. - You have sufficient budget and staff to keep key IT systems table and up-to-date as per IT policies and procedures.	Low (89.0%)
Organisational Performance Monitoring - Appropriate plans, policies and procedures to address Disaster Management / emergencies and other issues (safety, public participation, communication, etc.) are developed and implemented. NOTE: Although Disaster Management is a district function, LMs need to ensure they are aware of their associated roles and responsibilities and have developed a Disaster Management Framework. - An organisational performance management system is developed and implemented (i.e. effectively measure, monitor and track water and sanitation services performance indicators). - A municipal risk management framework is developed and implemented and includes monitoring and tracking of water and sanitation related risks. - Effective administration support is available to technical staff to assist with processing work orders, providing order numbers, handling correspondence, etc. "Access to Basic Water and Sanitation Services" progress reports are frequently produced and presented to council for discussion, action and follow-up.	Moderate (75.0%)
Financial Management - Financial controls - Please state the audit opinion with regard to your last audit report on the financial statements. - Cash flow status – Please state your Cash / Cost Coverage Ratio (excluding Unspent Conditional Grants) - Your actual operating expenditure closely reflects your budgeted operating expenditure (i.e. Operating Expenditure Budget Implementation Indicator). - Your actual revenue closely reflects your budgeted operating revenue (i.e. Operating Revenue Budget Implementation Indicator). - Liabilities (Creditors) - Money is owed by your municipality to major / critical service providers (e.g. ESKOM, Water Board, largest contractors, etc.) for more than 30 days from receipt of invoice (NOTE: Ignore disputed invoices).	Low (95.0%)
Revenue Collection - Please indicate the frequency of actual consumer meter readings. - Net Surplus / Deficit – Please state your net surplus / deficit from water services activities for the last 12 months (NOTE: This question tests whether your WSA currently has fully cost reflective Water and Sanitation Tariffs, which take into account cost of maintenance and renewal of purification plants and networks and the cost of new infrastructure). - Revenue collections - Please state the revenue collection rate in respect to Water and Sanitation Services (%). - Revenue Growth – Please state your Water and Sanitation Services revenue growth for the last 12 months (%).	Low (85.0%)

Table C.9.2: Municipal Strategic Self-Assessment (MuSSA) of Water Services for Langeberg Municipality (2024)	
Section	Vulnerability
Grant dependency – Actual-operating revenue less operational grants / subsidies (e.g. equitable share) sufficiently covers actual operating expenditure.	
Financial Asset Management - Capital Expenditure (Municipal). Please state your municipal Capital Expenditure as a percentage of Total Expenditure (i.e. Total Operating Expenditure + Capital Expenditure). - Capital Expenditure (Water Services). Please state your Capital Expenditure on Water and Sanitation Services as a percentage of Total Capital Expenditure (Capital Expenditure (Municipal)). - Asset Renewal. Please state your Asset Renewal investment as percentage of Depreciation Costs. - Repairs and Maintenance. Please state your Repairs and Maintenance expenditure as a percentage of Property, Plant and Equipment, Investment Property (Carrying Value). - Grant funding of capital expenditure – Please state your reliance on grant funding.	Extreme (40.0%)
Management Skill Level (Technical) - Your council approved technical management organisational organogram meets your business requirements, and key posts are filled (e.g. Technical Director, Water Services Manager, and Sanitation Services Manager). - You have sufficient technical management and technical support staff. - Technical management and technical support staff have the correct skills / qualifications and experience as per Job Description requirements (e.g. if Job Description requires Pr Eng, Pr Tech or CPM, the staff have these qualifications). - Managers and technical support staff regularly attend appropriate water and sanitation services skills development / training to support professionalisation. - Key technical managers (e.g. Section 56 and other Senior Management) have signed and monitored Performance Agreements.	Moderate (74.0%)
Staff Skill Levels (Technical) - WTWs are operated by staff with the correct skills / qualifications and experience (as per Regulation 2834). - WWTWs are operated by staff with the correct skills / qualifications and experience (as per Regulation 2834). - Water system plumbers, mechanics and electricians have the correct skills / qualifications and experience. - Sewage system plumbers, millwrights, mechanics and electricians have the correct skills/qualifications and experience (including contractors / outsourced resources). - Staff regularly attend appropriate water services skills development / training (including safety) (e.g. ESETA courses).	Moderate (70.0%)
Technical Staff Capacity (Numbers) - Your council approved technical staff organisational organogram meets your business requirements, and posts are filled (i.e. Superintendent of WTWs / WWTWs and below). - WTWs are operated by the appropriate number of staff (as per Regulation 2834). - WWTWs are operated by the appropriate number of staff (as per Regulation 2834). - You have sufficient water and sewerage/sanitation network operations and repair staff/plumbers including contractors / outsourced resources (i.e. you have the appropriate number of staff). - An active mentoring/shadowing programme is in place where experienced staff train younger, inexperienced municipal staff.	Extreme (45.0%)

The Municipal personnel is continuously exposed to training opportunities, skills development and capacity building at a technical, operations and management level in an effort to create a more efficient overall service to the users. A Workplace Skills Plan is compiled every year and the specific training needs of the personnel, with regard to water and wastewater management are determined annually.

The table below summarise the municipal budget allocated to skills development and the percentage spent and the number of personnel trained for the last ten financial years.

Table C.9.3: Municipal budget allocated to skills development and the percentage spent and number of personnel trained for the last ten financial years				
Year	Budget	Expenditure	Percentage Spent	Number of Personnel Trained
2014/2015	R644 540	R640 335	99.4%	Unknown
2015/2016	R663 000	R660 889	99.7%	Unknown
2016/2017	R1 094 441	R1 094 441	100.0%	285
2017/2018	R1 274 080	R986 120	77.4%	259
2018/2019	R1 224 379	R1 224 379	100.0%	483
2019/2020	R1 290 000	R1 223 578	94.8%	169
2020/2021	R825 000	R806 720	97.8%	103
2021/2022	R600 000	R591 608	98.6%	191
2022/2023	R624 000	R612 516	98.2%	143
2023/2024	R660 004	R645 235	97.8%	142
2024/2025	R597 348	R597 348	100%	148

The following training was provided during the 2024/2025 financial year:

- Water and Wastewater Treatment Process Control Supervision (NQF4) – 10 trainees

The WTWs and WWTWs in Langeberg Municipality's Management Area and the Process Controllers working at these plants are registered with the DWS. It is important for Langeberg Municipality to regularly review their Organogram in order to ensure that the number of Process Controllers per WTW and WWTW is in-line with the legal required number of Process Controllers per Class of plant. Submissions for the re-classification of Process Controllers need to be made to the DWS once specific training courses were completed by the Process Controllers.

The Occupational Health and Safety Act contain provisions directing employers to maintain a safe workplace and to minimize the exposure of employees and the public to workplace hazards. It is therefore important for Langeberg Municipality to compile a Legal Compliance Audit of all their WTWs and WWTWs, which will provide the management of Langeberg Municipality with the necessary information to establish whether the Municipality is in compliance with the legislation or not.

Langeberg Municipality is currently effectively managing its water and sanitation services. Urgent attention is however required to address the backlog in infrastructure replacement and refurbishment. All forward planning for water and sanitation services should be guided by the Water and Sewer Master Plans and the WSDP.

Langeberg Municipality's aim is to improve on customer loyalty and customer satisfaction within the Municipality by placing all people at the centre of development. In order to achieve customer service excellence, the Municipality's value system is based upon the eight Batho Pele Principles which brings services closer to the people and aims to serve. The Municipality further appointed their own Batho Pele Co-ordinator, who is responsible for the cascading of Batho Pele Principles to all staff members at all levels within the Municipality. All newly appointed officials of the Municipality are inducted on the Batho Pele Principles. The Municipality also compiled its own Batho Pele Strategic Plan.

Langeberg Municipality's commitment is to the following values, which guide the Municipality's interactions with customers:

- Courtesy and Respect
- Good Customer Care
- Service Excellence
- Integrity and Professionalism
- Mutual trust and understanding

The Customer Care Policy includes Helpdesk Procedures, which include the processes to be followed for Logging a Call, Call Categorization, Call Response Times and Enquiries. Langeberg Municipality's Client Service Charter includes the Vision and Aim of the Municipality with regard to Customer Care and the Municipality's commitment.

A comprehensive Customer Services and Complaints system is in place at Langeberg Municipality and the Municipality has maintained a high and a very consistent level of service to its urban water consumers. After hour emergency requests are being dealt with by the Emergency and Customer Call Centre on a twenty four hour basis. Requests are furthermore captured on an electronic mail or works-order system to ensure execution thereof.

The Municipality's Emergency and Customer Call Centre is in operation for more than ten years with four permanent Call Centre Operators operating on a fully functional and effective 24 hour, seven days a week, call answering facility in case of emergencies and to respond to customer queries regarding municipal services across the entire Langeberg Municipal area. The centre deals with general enquiries, departmental fault reports and complaints from the public including the surrounding farm areas essentially after-hours, on public holidays and over weekends. The functioning of the Call Centre contributes to community liaison and aims to improve on customer loyalty and customer satisfaction within the municipality. In addition to the Call Centre, the Municipal Website (www.langeberg.gov.za) also offers the public to leave comments and complaints.

The table below gives a summary of the water and sanitation records that are kept by Langeberg Municipality and the maintenance work that was carried out over the last five financial years.

Table C.9.4: Water and sanitation indicators monitored by Langeberg Municipality with regard to customer services and maintenance work, as captured in the monthly reports																														
Definition	2024/2025						2023/2024						2022/2023						2021/2022						2020/2021					
	Robertson	Ashton	Montagu	Bonnievale	McGregor	Total	Robertson	Ashton	Montagu	Bonnievale	McGregor	Total	Robertson	Ashton	Montagu	Bonnievale	McGregor	Total	Robertson	Ashton	Montagu	Bonnievale	McGregor	Total	Robertson	Ashton	Montagu	Bonnievale	McGregor	Total
Water quality complaints	0	0	0	1	9	10	2	1	4	2	5	14	0	0	5	0	1	6	1	2	15	1	0	19	0	0	3	0	2	5
New water connections	6	7	5	5	5	28	6	12	10	3	13	44	6	14	11	1	8	40	9	11	13	7	11	51	24	3	9	6	6	48
Breakages on networks	92	50	21	56	16	235	84	108	26	144	27	389	96	52	20	69	23	260	78	87	13	68	2	248	51	94	33	58	1	237
Water meters replaced	389	116	555	123	20	1 203	358	84	540	145	23	1 150	116	91	426	97	58	788	151	90	397	76	34	748	170	81	440	131	24	846
Sewer Blockages	1 536	534	136	300	75	2 581	900	425	102	238	41	1 706	1 066	563	131	366	45	2 171	1 018	621	121	303	38	2 101	673	643	83	381	31	1 811
Manhole covers replaced	32	30	16	8	0	86	49	21	19	14	0	103	18	2	20	16	2	58	20	14	17	13	1	65	37	21	26	19	1	104
Sewerage truck (Trips)	367	477	153	1 408	3 985	6 390	302	463	144	1 215	3 604	5 728	233	231	150	1 090	3 571	5 012	212	278	120	1 000	3 402	4 547	276	233	96	930	3 012	4 547

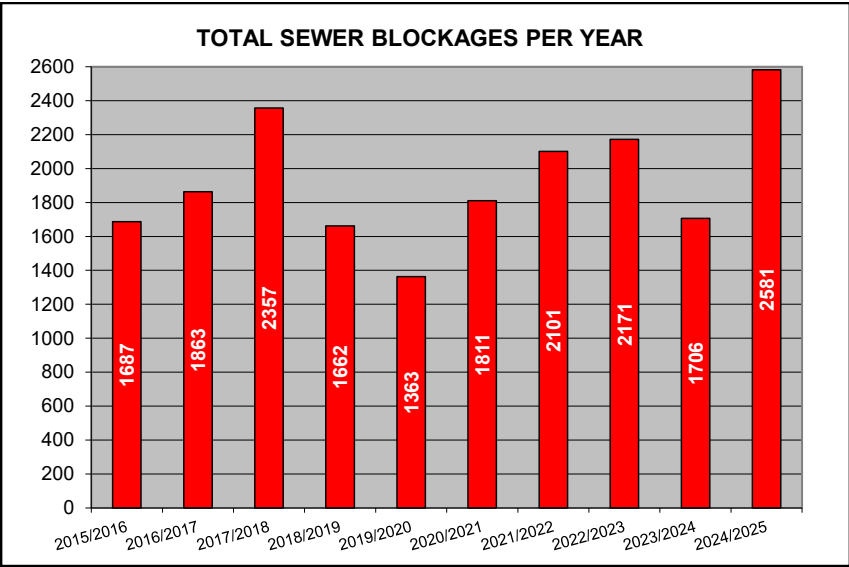


Figure C.9.2: Total number of sewerage blockages on main pipelines per year

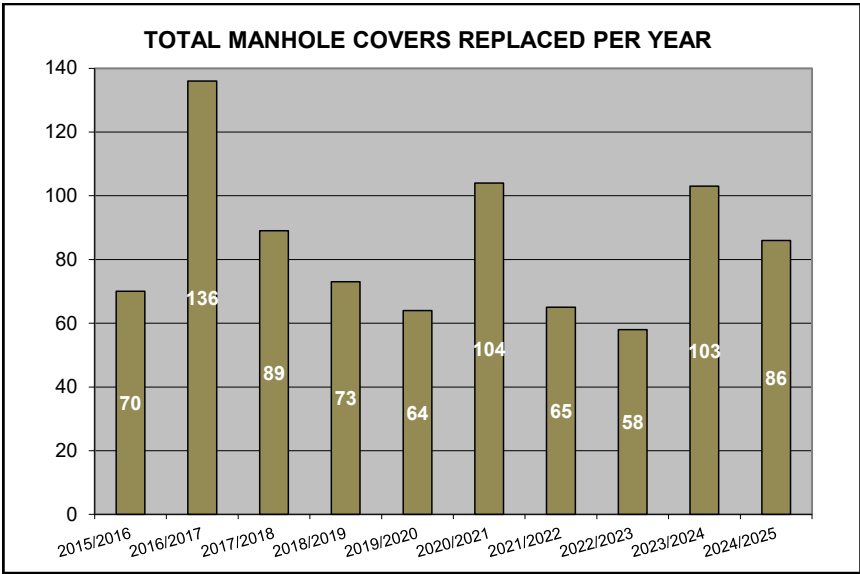


Figure C.9.3: Total number of manhole covers replaced per year

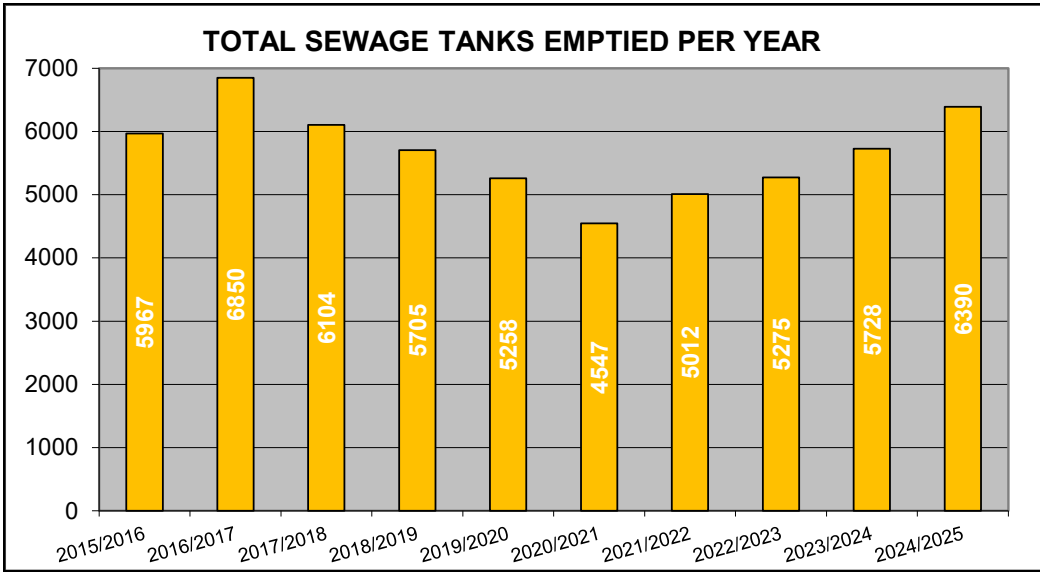


Figure C.9.4: Total number of sewage tanks emptied per year

Access to safe drinking water is essential to health and is a human right. Safe drinking water that complies with the SANS:241 Drinking Water specifications do not pose a significant risk to health over a lifetime of consumption, including different sensitivities that may occur between life stages. Langeberg Municipality is therefore committed to ensure that their water quality always complies with national safety standards.

The Water Safety Plans of Langeberg Municipality includes an Improvement / Upgrade Plan. The purpose of the Improvement / Upgrade Plan is to address the existing significant risks where the existing controls were not effective or absent. Barriers implemented by Langeberg Municipality against contamination and deteriorating water quality include the following:

- Participate in Catchment management and water source protection initiatives.
- Protection at points of abstraction such as river intakes and dams (Abstraction Management).
- Correct operation and maintenance of WTWs (Coagulation, flocculation, sedimentation and filtration).
- Protection and maintenance of the distribution system. This includes ensuring an adequate disinfectant residual at all times, rapid response to pipe bursts and other leaks, regular cleaning of reservoirs, keeping all delivery points tidy and clean, etc.

Three other important barriers implemented by Langeberg Municipality against poor quality drinking water that are a prerequisite to those listed above are as follows:

- A well informed Council and top management that understands the extreme importance of and are committed to providing adequate resources for continuous professional operation and maintenance of the water supply system.
- Competent managers and supervisors in the technical department who are responsible for water supply services and lead by example and are passionate about monitoring and safeguarding drinking water quality.
- Well informed community members and other consumers of water supply services that have respect for water as a precious resource.

D. APPROVAL AND PUBLICATION RECORD

This Annual WSDP Performance- and Water Services Audit Report is for the 2024/2025 Financial Year and is hereby approved for submission to the Minister of the Department of Water and Sanitation, the Minister for the Department of Cooperative Governance, the Western Cape 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 and is available on the Municipality's website. A Copy of the report is obtainable at a fee as determined by the Municipality.

RECOMMENDED:

Signature
Name: Mr C.G.H. Posthumus
Title: Snr Manager: Civil Engineering Services

Date

Signature
Name: Mr D Louwrens
Title: Director: Engineering Services

Date

APPROVED:

Signature
Name: Mr D Lubbe
Title: Municipal Manager

Date

REFERENCES

- SA Census Data (2011), Community Profiles and SA Census 2022 Data.
- DWS's Annual Water Services Development Plan Performance- and Water Services Audit Report Template, August 2014.
- Revised Compulsory National Water and Sanitation Services Standards in terms of Section 9 (1) of the Water Services Act, Act No.108 of 1997, 6 June 2025, Gazette No.52814.
- DWS's 2022 Blue Drop Report.
- DWS's 2022 Green Drop Report 2023 Green Drop PAT Results
- Langeberg Municipality's 2024 Municipal Services Strategic Assessment (MuSSA), DWS.
- Langeberg Municipality's Annual WSDP Performance- and Water Services Audit Report for 2023/2024, 4 October 2024, Africoast.
- Langeberg Municipality's O&M Budgets and water and sanitation Tariffs.
- SDBIP of Langeberg Municipality for 2024/2025.
- DWS's All Towns Reconciliation Strategy Documents for each of the towns in Langeberg Municipality's Management Area, December 2014.
- 2022/2023 Annual Report of Langeberg Municipality.
- 2024 Socio-Economic Profile for Langeberg Municipality, Western Cape Government.
- Water Safety Plan for Robertson Water Distribution System, Working Document, June 2024, iX engineers.
- Water Safety Plan for McGregor Water Distribution System, Working Document, June 2024, iX engineers.
- Water Safety Plan for Bonnievale Water Distribution System, Working Document, June 2024, iX engineers.
- Water Safety Plan for Ashton Water Distribution System, Working Document, June 2024, iX engineers.
- Water Safety Plan for Montagu Water Distribution System, Working Document, June 2024, iX engineers.
- Wastewater Risk Abatement Plan (W₂RAP) for Robertson, Working Document, August 2024, iX engineers.
- Wastewater Risk Abatement Plan (W₂RAP) for McGregor, Working Document, August 2024, iX engineers.
- Wastewater Risk Abatement Plan (W₂RAP) for Bonnievale, Working Document, August 2024, iX engineers.
- Wastewater Risk Abatement Plan (W₂RAP) for Ashton, Working Document, August 2024, iX engineers.
- Wastewater Risk Abatement Plan (W₂RAP) for Montagu, Working Document, August 2024, iX engineers.

ATTENDANCE REGISTER (DISCUSSION OF DRAFT DOCUMENT)

ANNEXURE A

WTW flows and capacities

Rainfall and WWTWs flows and capacities

IWA Water balances for the various water distribution systems

Number of Billed Metered Consumers and Volumes for 2024/2025

Schematic layouts of the water distribution networks

ANNEXURE B

Future Water Requirement Projections for the various water distribution
systems

ANNEXURE C

No Drop IWA Water Balance Spreadsheet and ILIs

ANNEXURE D

Water Quality Compliance Sample Results (July 2022 – June 2025)

Final Effluent Quality Compliance Sample Results (July 2022 – June 2025)

ANNEXURE E

DWS's scorecard for assessing the potential for WC/WDM efforts

ANNEXURE F

Summary of Operational and Maintenance Budgets (Actual Expenditure and
Income) for Water and Sanitation Services

ANNEXURE G

Civil Engineering Services Personnel