2022/23 – 2026/2027 WATER SERVICES DEVELOPMENT PLAN

Joe Gqabi District Municipality
Private Bag X 102
Barkly East
9786

Corner Cole and Graham Streets
Barkly East
9786

Tel: 045 979 3000 / 3141
Fax: 045 971 0251
Email: wsa@jgdm.gov.za / registry@jgdm.gov.za

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1.1		First Draft V_1-1	S.V. Pongoma	R. Fortuin	3-year Infrastructure Development Plan. Council approved Integrated Water and Sanitation Master Plan
1.3		First Draft V_1-3	S.V. Pongoma	R. Fortuin	MHS Updated list of public facilities and Customer Care
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Current Revision		**8-1**			

APPROVAL			
Author Signature		**Approver Signature**	
Date Approved		**Date Approved**	
Name	Mr Sicelo Pongoma	**Name**	Mr Robert Fortuin
Title	Manager: Water Services Authority	**Title**	Director: Technical Services

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ACRONYMS

The following abbreviations are used in this Water Services Development Plan:

AW	Amatola Water
BDS	Blue Drop System
CBO	Community Based Organization
CMA	Catchment Management Agency
CMIP	Consolidated Municipal Infrastructure Programme
CoGTA	Department of Corporative Governance and Traditional Affairs
CWSSCP	Community Water Supply and Sanitation Capital Programme
DM	District Municipality
DORA	Division of Revenue Act
DWS	Department of Water and Sanitation (formerly DWA and DWAF)
DWQ	Drinking Water Quality
EHP	Environmental Health Practitioner
EIA	Environmental Impact Assessment
EIP	Environmental Implementation Plan
FA	Functional Assessment
FBS	Free Basic Sanitation
FBW	Free Basic Water
GDP	Gross Domestic Product
GDS	Green Drop System
GIS	Geographic Information System
GGP	Gross Geographic Product
HR	Human Resources
IDP	Integrated Development Plan
IWA	International Water Association
IMATU	Industrial, Municipal and Allied Trade Union
IRIS	Integrated Regulatory Information System
ISD	Institutional and Social Development
ISRDP	Integrated Sustainable Rural Development Programme
JGDM	Joe Gqabi District Municipality
LM	Local Municipality
M & E	Monitoring and Evaluation
MHS	Municipal Health Services
MIG	Municipal Infrastructure Grant

MIIU	Municipal Infrastructure Investment Unit
NEMA	National Environmental Management Act
NGO	Non-Governmental Organization
NRW	Non Revenue Water
NT	National Treasury
O & M	Operation and Maintenance
PGDP	Provincial Growth and Development Plan
PIMS	Programme Implementation Management System
PMU	Project Management Unit
PRV	Pressure Reducing Valve
RDP	Reconstruction and Development Programme
RSA	Republic of South Africa
SALGA	South African Local Government Association
SAMWU	South African Municipal Workers Union
SANS	South African National Standards
SDI	Spatial Development Initiative
SLA	Service Level Agreement
SMME	Small and Medium Micro Enterprise
STATS SA	Statistics South Africa
S78	Section 78 of the Municipal Systems Act (Act No 32 of 2000)
UAW	Unaccounted for Water
VAT	Value Added Tax
VIP	Ventilated Improved Pit (Latrine)
WCWDM	Water Conservation and Water Demand Management
WMA	Water Management Area
WSA	Water Services Authority
WSAM	Water Situation Assessment Model
WSDP	Water Services Development Plan
WSP	Water Services Provision
WTW	Water Treatment Works
WWTW	Wastewater Treatment Works

SECTION 1: INTRODUCTION AND BACKGROUND

1.1 LOCATION

The Joe Gqabi District Municipality (JGDM) is one of the six District Municipalities in the Eastern Cape Province in the Republic of South Africa. It borders the Free State Province and country of Lesotho to the north as depicted in the figure below. The district is also located to the west of Alfred Ndzo DM, north of OR Tambo DM and Chris Hani District Municipalities and to the east of the Northern Cape Province (see figure 1 below).

JGDM came into existence due to the Municipal Structures Act (Act 117 of 1998, Structures Act) in December 2000 following the Municipal Elections. The municipality was previously known as the Ukhahlamba District Municipality, but was later renamed in honour of Joe Nzingo Gqabi, a struggle stalwart who was born in Aliwal North and died in exile.

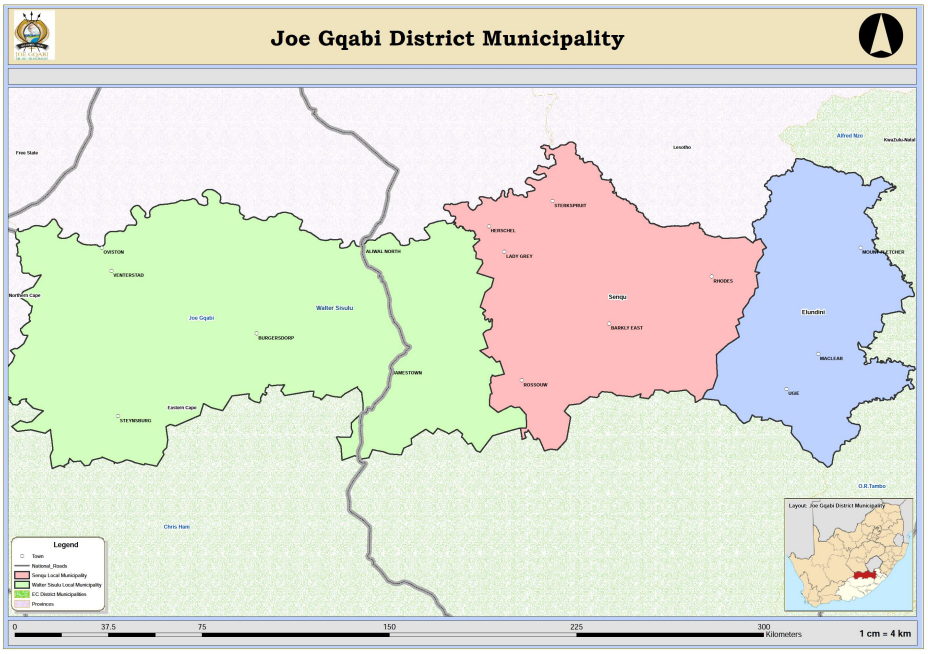

Figure 1-1 Joe Gqabi Locality Map

The JGDM is situated along the northern border of the Eastern Cape Province. The municipality is made up of three local municipalities, namely Walter Sisulu, Senqu and Elundini Local Municipalities. The N6 national highway traverses the centre of the municipality in a

north/south direction. Other major routes that serve the municipality are the R56 in an east/west direction and the R58 in a general north-east/south-west direction and these roads also connect the main towns in the JGDM. These main towns in each local municipality area are namely:

- Walter Sisulu Local Municipality: Aliwal North, Jamestown, Burgersdorp, Steynsburg, Oviston and Venterstad
- Senqu Local Municipality: Sterkspruit, Barkly East, Rossouw, Rhodes and Lady Grey
- Elundini Local Municipality: Ugie, Maclear and Mount Fletcher

The administrative centre of Joe Gqabi District Municipality is located in Barkly East within Senqu Local Municipality.

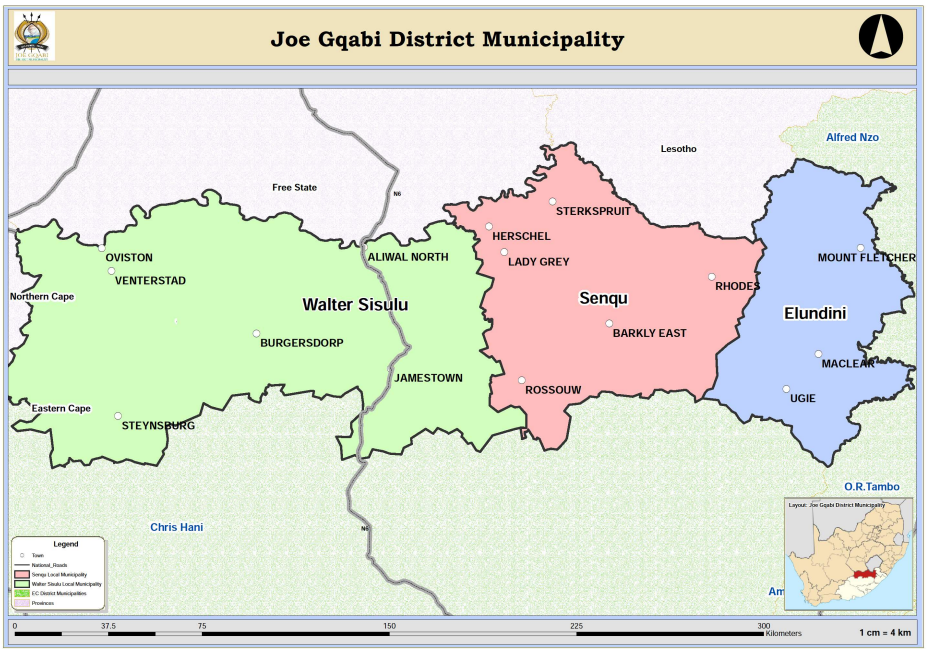

Figure 1-2 Local municipalities within Joe Gqabi DM

The Municipal Demarcation Board merged the Gariep and Maletswai Local municipalities into a single entity with the Local Government elections in 2016. The new local municipality is now called the Walter Sisulu Local Municipality. The impact on Water and Sanitation has been minimal to date, as the provision and regulation of the services falls within the JGDM, and operational centres have been kept the same for the operational functions. Travel distances to

a local administrative centre however may be impacted in the future as management and other services may be rationalized.

The Joe Gqabi District Municipality (JGDM) is a Water Services Authority (WSA) for its area of jurisdiction in terms of the Water Services Act (Act 108 of 1997, Water Services Act). It therefore has statutory responsibilities and accountability in terms of legislation and policy with respect to the provision of water services.

1.2 LOCAL CONTEXT

On annual basis during the Strategic Planning session of the municipality, the vision, mission statements and values of the municipality are reviewed and affirmed and in March 2023 these were confirmed by the new Council of the municipality as follows:

Vision:
An improved quality of life for all residents

Mission:
Fight poverty through stimulating the economy and by meeting basic needs, improving service delivery quality, promoting corporate governance and building the capacity of government and communities within a sustainable environment.

This mission is premised on the following key elements:

- Stimulate the economy and fight poverty
- Meet basic needs and improve service delivery quality
- Enabling the building of capacity of government and communities
- Enabling the building of partnerships with communities
- Fight fraud and corruption and ensure compliance
- Grow tourism and related businesses
- Grow pro-poor and labour intensive programmes
- Grow agriculture and downstream industries
- Promote sustainable development

Values of the District

The JGDM adheres to the following values that should apply to the District municipality, goods and service providers and the community:

- **Integrity**: Conduct the municipality's business in a fair, responsible, flexible, equitable and honest manner.
- **Teamwork:** Cooperative effort on the part of individuals and a group of people acting together, combining their abilities in pursuit of a common cause.
- **Communication:** Two-way process of reaching mutual understanding in which participants not only exchange (encode-decode) information, news, ideas and sentiments but also create and share meaning.
- **Perseverance**: Commitment, hard work, patience, endurance in spite of challenges and difficulties in ensuring that a defined course of action is attained.
- **Competence**: A cluster of related abilities, commitments, knowledge, and skills that enable a person (or an organization) to act effectively in a job or variety of situations.
- **Quality:** A measure of excellence or a state of being free from defects, deficiencies and significant unjustifiable variations. Strict and commitment to certain standards is required.

1.3 JGDM 2022/2023 INTEGRATED DEVELOPMENT PLAN GOALS

Strategic development objectives provide a practical statement of what the Joe Gqabi District Municipality wishes to achieve to work towards the attainment of its vision. The strategic development objectives seek to bridge the gap between the current reality and
the vision through the identified systematic interventions taking into account the objectives outlined in the NDP, IUDF and DDM. Development Strategies provide answers to the question of how the District municipality will attain its objectives. Development strategies can be understood as the most appropriate ways and means to achieve the objectives.

Table 1-1 JGDM 2022-2023 IDP Objectives and Strategies linked to water services provision

Strategic objective	Development Strategy	Key Priorities	Partners	Key Sector Plans	Strategic Outcome
KPA 1: SERVICE DELIVERY AND INFRASTRUCTURE PROVISION					
Provide access to basic services	Develop and maintain water and sanitation infrastructure	Address bulk services backlogs Improved and systematic operations and maintenance	DWS Development Finance Institutions CoGTA MISA Treasury DEDEAT	WSDP O&M Plan Water & Sanitation Master Plan Spatial Development Framework	Improved quality of water and sanitation services Improved water services availability & sustainability
	Expand and fast-track provision of universal access to basic services	Address backlogs Address unplanned interruptions Compliance with by-laws	MISA CoGTA Treasury SAPS / DoJ DWS	WSP Water and Sanitation Master Plan JGDM by-laws	Improved access to water & sanitation services Improved municipal health
KPA 2: LOCAL ECONOMIC DEVELOPMENT					
Facilitate and implement job creation and poverty alleviation initiatives	Implement and expand implementation of EPWP and other job creation initiatives	Facilitate creation of job opportunities	All Government Departments and state entities	LED Plan WSDP	Improved levels of economic activity in municipal economic spaces
	Support and facilitate rural development and poverty alleviation programmes	Creation of sustainable and vibrant communities	DALRRD DEDEAT Local municipalities JoGEDA DWS	LED & Tourism Plan Forestry Plan Joe Gqabi 2060 Growth and Development Strategy WSDP	Improved ease of doing Business within the municipal area
	Development of a long-term vision/plan	Strategic and systematic long term[infrastructure] investment decisions	ECSSEC Office of the Premier COGTA DBSA	Water and Sanitation Master Plan WSDP IDP	Sustainable and integrated development
KPA 3: FINANCIAL VIABILITY AND MANAGEMENT					
Ensure sound and effective financial management and reporting	Implement revenue collection and enhancement strategy initiatives	Collect all revenue due Recover debt	Communities Business Institutions	Revenue enhancement strategy**	Financially viable institution
	Develop and implement cost saving strategies	Efficient utilization of Budget	Treasury COGTA SALGA	Cost containment Regulations	Financially viable institution
KPA 4: INSTITUTIONAL DEVELOPMENT AND TRANSFORMATION					
Improve human resource capacity and potential	Attract and retain Skilled employees	Professionalism and competency	DPSA SALGA COGTA	Retention Strategy	Improved municipal capability
	Effectively empower communities and develop skills base within the District	Empowered communities	JoGEDA Department of Labour	Workplace skills Plan	Improved municipal capability

KPA 5: GOOD GOVERNANCE AND PUBLIC PARTICIPATION					
Facilitate intergovernmental cooperation and coordination	Support and facilitate intergovernmental cooperation initiatives	Realize implementation impact	Office of the Premier COGTA Municipalities	DDM Concept and JGDM DDM One Plan	Integrated and coherent government
	Establish and maintain Stakeholder engagement initiatives	Bottom-up planning and implementation	COGTA DWS	Public Participation strategy	Improved municipal responsiveness

1.4 NATIONAL AND PROVINCIAL DEVELOPMENT IMPERATIVES

The *National Development Plan* is the country's strategic roadmap for the elimination poverty and reduce inequality by 2030. Its imperatives will have direct and indirect impacts on the functioning of the JGDM are discussed in the table below:

Table 1-2 NDP objectives that impact on JGDM

STRATEGIC OBJECTIVE	OBJECTIVES	IMPLICATONS FOR JGDM
Economy and Employment	Public employment programmes should reach 1 million by 2015 and 2 million by 2030.	Job creation through labour intensive infrastructure projects
Economic Infrastructure	Ensure that all people have access to clean, potable water and that there is enough water for agriculture and industry, recognizing the trade-offs in the use of water.	Eradication of water and sanitation backlogs
	Reduce water demand in urban areas to 15%.	Implementation of WCDM interventions
Inclusive Rural Economy	An additional 643 000 direct jobs and 326 000 indirect jobs in the agriculture, agro-processing and related sectors by 2030.	Competition for raw water and increased water demand.
Transforming Human Settlements	Upgrade all informal settlements on suitable well located land by 2030.	New housing developments in the peri-urban areas and increased water demand & generation of wastewater.
	More people living closer to their places of work.	

The *Eastern Cape Vision 2030 Provincial Development Plan* reiterates and aligns to the premises outline in the National Development Plan. The Eastern Cape government's Vision 2030 Provincial Development Plan has identified the district as one of its provincial development nodes forestry and livestock production.

The EC Vision 2030 Provincial Development Plan further outlines other strategic objectives that will have implications on the planning and operations of the district. These include but not limited to the following:

Table 1-3 EC Vision 2030 Provincial objectives and impact on JGDM

OBJECTIVES	IMPLICATIONS FOR JGDM
Create jobs across all sectors (including agriculture and agro-processing)	• Align the JGDM process to participate in the Eastern Cape Vision; • Water development, economic use and preservation are key aspects of the ensuring period to ensure achievement of the goals of the vision • Key focus on agricultural development.

It is vital that the district takes into consideration and integrate the national and provincial objectives emanating from the National Development and the EC Vision 2030 Provincial Development Plan documents. This will be achieved by ensuing that the district:

- Develop responsive district plans that incorporate and aligned to those objectives;
- Participates in the interactions and projects/interventions regarding these; and
- Amend the municipal programmes to address the outcomes of the relevant projects/interventions.

1.5 LOCAL MUNICIPALITIES

There are a numerous operational and capital development functions, developmental priorities and activities within the three local municipalities of Elundini, Senqu & Walter Sisulu Local Municipality which will have a direct and indirect impact on the on the planning and implementation of district activities with regard to the provision water supply and sanitation services provision. The following functions of the local municipalities have a direct and critical impact on the plans and activities of the district:

Table 1-4 LM functions with impact on JGDM

Local municipality function	Implications on JGDM
1. Spatial planning	Development plans in alignment to existing and planned water and sewer infrastructure.
2. Housing development	Availability of adequate water resources and ability of the existing infrastructure to cater for the additional water demand and wastewater load.
3. Storm-water planning	Storm-water design and management taking consideration of water and sanitation infrastructure to avoid damage and storm-water intrusion.
4. Waste management	Waste management planning and services have an impact on the misuse of and damage to wastewater infrastructure (e.g. sewer manhole vandalism & misuse, VIP toilet usage, etc)

1.6 IMPLEMENTATION OF PREVIOUS WSDP

The implementation of the annual WSDPs in the previous financial year during the tenure of the different political principals has seen the spending of more than a billion rands on water supply and sanitation capital projects across the three local municipals. The project

1.7 WSDP PROCESS FOLLOWED

The Water Services Development Plan (WSDP) is a statutory development plan and fits into the overall planning framework that is governed by the Integrated Development Plan (IDP). The WSDP is the primary planning instrument for the Water Supply and Sanitation Services sector of a municipality. The plan must take, as a minimum, cognisance of the physical, social, economic, financial, environmental and institutional aspects of water services provision in a particular water services authority area. The planning format has largely been driven by the Department of Water and Sanitation (DWS) *in order for the al the municipality's current and projected activities are teased in order to align with the strategies and plans of the department*.
The WSDP is but one of several planning documents that local government is legally compelled to compile, implement and maintain. The relative positions of various plans are depicted below:

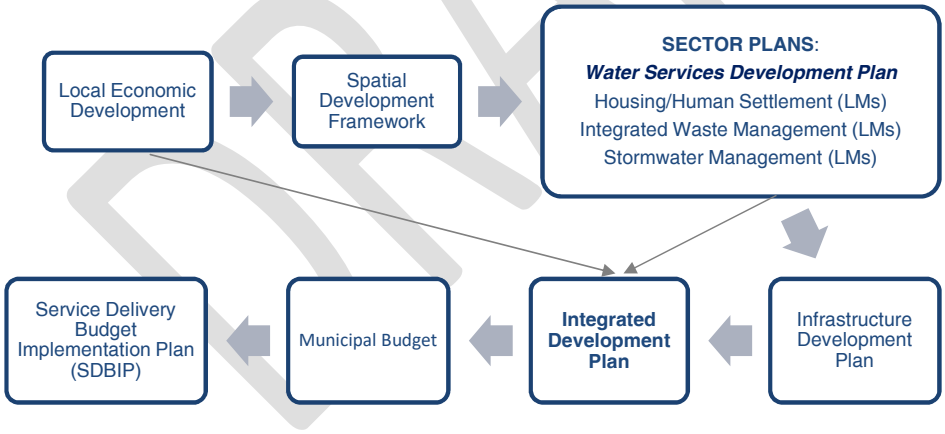

Figure 1-3 WSDP alignment to IDP

The public participation process included engagements with a number of stakeholders and utilized numerous avenues:

- Internal inputs from the JGDM internal stakeholders.
- Submission of the draft document to the Department of Water and Sanitation.

- Publishing of the document on the JGDM municipal website from June 2021 for public comment.
- Hard copies of the WSDP to be delivered to the MM Offices and libraries of the three local municipalities and the JGDM MM Office.
- Draft copies of the document forwarded to the Technical Services and Planning departments of the three local municipalities.
- Draft copies also forwarded to the Eastern Cape Department of Human Settlements to incorporate housing projects.
- The draft presentation of the draft document on the JGDM District Water Services Forum in July 2022.

The final 2022/23 – 2026/27 Water Services Development Plan will be submitted for Council approval on the Council Meeting scheduled for **August 2022.**

Water supply and sanitation services primary data that informed the WSDP to be uploaded into the Department of Water and Sanitation online system to facilitate provincial and national water services planning, monitoring and reporting.

The WSDP planning ought to run concurrently with the IDP planning process as the IDP is the principal and strategic municipal plan, while the WSDP is a sector plan of the IDP. *This will ensure that the municipalities' IDP priorities that impact on water and sanitation must be cross-referenced to the WSDP, which in turn must include detailed information thereof.*

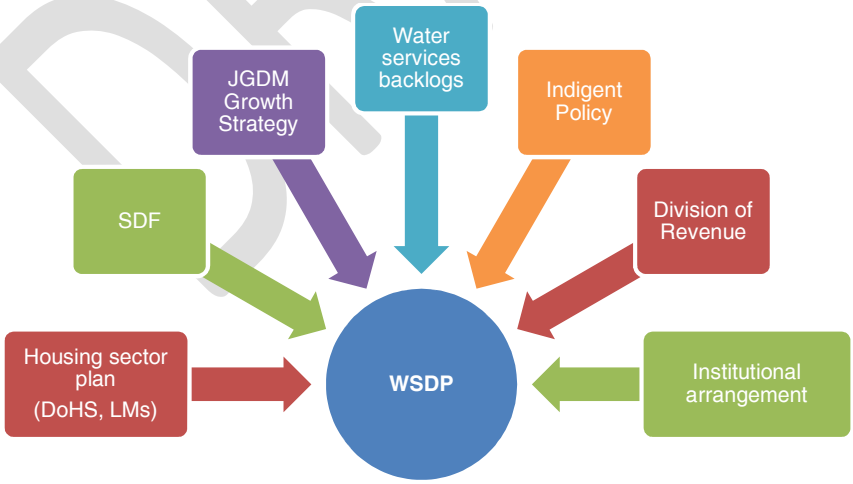

Figure 1-4 Inputs into the WSDP Process

In turn, the WSDP relies on a number of plans for its compilation. This process should be iterative until all plans are fine-tuned and in harmony.

1.7 LEGAL FRAMEWORK

The need to provide water and sanitation services to the population of South Africa and the district is founded in the Constitution of South Africa. The following legislation directly guides the provision of water services:

- The Constitution of the RSA, 1996 (Act 108 of 1996)
- Water Services Act (Act 108 of 1997)
- National Water Act (Act 36 of 1998)
- The White Paper on Local Government (1998)
- The Local Government: Municipal Systems Act, 2000 (Act 32 of 2000)
- Municipal Planning and Performance Management Regulations 2001(No 796, 24 August 2001)
- The Local Government: Municipal Structures Act, 1998 (Act 117 of 1998)
- The Local Government: Municipal Financial Management Act, 2003 (Act 66 of 2003)
- The Batho Pele White Paper (1998)

There are various regulations under the acts that further spell the further the detail with respect to service provision and standards, for example:

- Guidelines for Compulsory National Standards (Regulations under section 9 of the WSA, Act 108 of 1997); and
- Norms and Standards for Water Services Tariffs (Regulations under section 10 of the WSA, Act 108 of 1997).

It must be noted that the DWS is looking at reviewing water legislation and the policy framework is being revised and consolidated.

1.8 WATER SERVICES BACKLOGS

Similarly to other rural WSAs in the country, Joe Gqabi District Municipality has inherited the historical legacy of a large backlog of water and sanitation services infrastructure especially in the rural and peri-urban areas of the region. As a departing point, the water and sanitation backlogs as reported in the Statistics South Africa's 2016 Community Survey Census data, is used as reference. In the interim, various capital infrastructure development programmes and

related projects have been completed and/or initiated during the 2021/2022 municipal financial year with some in the progress to completion. The completed and audited projects are used to modify the backlogs to reflect the work and effort undertaken to date to eradicate backlogs since the last census including the 2017/18 Water and Sanitation Access Report.

1.9 WSDP COMPILATION TEAM

The WSDP is a Joe Gqabi District Municipality document as such the municipality has undertaken to utilize internal resources to develop the document and employ a service provider where a specific need arise. *This is aimed at improving the capacity of the municipality, ensure ownership of the document and reinforce the internal governance of water services delivery*.

The following team has been involved in the compilation of the WSDP:

Table 1-5 JGDM 2022/23 – 2026/27 WSDP Compilation Team

Name	Designation	Department/Section
1. Sicelo Pongoma	WSA Manager	Water Services Authority
2. Robert Fortuin	Director	Technical Services
3. DC Lourens	Head: Compliance	Water Services Authority
4. Lumanyano Wana	PMU Manager	Technical Services
5. Dumisani Lusawana	WSP Manager	Water Services Provision
6. Bongani Makehle	Water Quality Manager	Water Services Provision
7. Nobesuthu Memela	MHS Manager	Municipal Health Services
8. Sulene Du Toit	Chief Financial Officer	Finance
9. Charles Samuels	Manager:	Budget & Treasury Office
10. Mandla Gceya	Manager: Communications & IGR	Institutional Support and Advancement
11. Karel McCarthy	Area Manager: Senqu	Water Services Provision
12. Peter Mathebula	Area Manager: Maletswai	Water Services Provision
13. Riaan Potgieter	Acting Area Manager: Gariep	Water Services Provision
14. Thembelani Ngceba	Area Manager: Elundini Rural	Water Services Provision
15. Sibongile Mnengisa	Plant Controller: Mt Fletcher	Water Services Provision

SECTION 2: SOCIO-ECONOMIC DEVELOPMENT/PROFILE

The IDP process sets the base information that is utilised by all municipal planning documents such that a single reference set of data is used and consistency is ensured. The Statistics South Africa's 2016 Community Survey is used for the review of the 2022/23 IDP as such the WSDP preparation process also utilized the municipal demographic data set for the 2022/2023 planning cycle.

2.1 DEMOGRAPHICS

The population of the District slightly increased from 341 750 in 2001 to 372 192 in 2016 representing a 9% growth (see table 1-1). There has been a modest growth compared to the 8.2% growth observed between 1996 and 2001 as depicted in the table below. The locality that has seen higher population growth is the former Maletswai local municipality that stood at 16% between 2001 and 2011. This was followed by the Former Gariep local municipality at 7.3%. The Senqu local municipality observed a decrease of 1.2 % and in Elundini an insignificant growth of 0.5%.

Table 2-1 Table 1: Population and total households (2001, 2011 and 2016)

MUNICIPALITY	POPULATION			HOUSEHOLDS		
	2001	2011	2016	2001	2011	2016
JGDM	341 750	349 768	372 192	84 835	97 775	95 107
Elundini	137 394	138 141	144 929	33 209	37 854	35 804
Senqu	135 734	134 150	140 720	33 904	38 046	35 597
Walter Sisulu	68 621	77 477	87 263	17 722	21 875	23 705

The Walter Sisulu local municipality increased the most population, with an average annual growth rate of 1.4%; the Elundini local municipality had the second highest growth, with an average annual growth rate of 0.6%. The Senqu local municipality had the lowest average annual growth rate of 0.33%.

Based on the present age-gender structure and the present fertility, mortality and migration rates, ECSSEC projects that the population of the JGDM to grow at an average annual rate of 1.1% from 373 000 in 2016 to 393 000 in 2021. The average annual growth rate in the population over the forecasted period for Eastern Cape Province and South Africa is 1.0% and 1.4% respectively. The Eastern Cape Province is estimated to have average growth rate of

1.0% which is lower than the Joe Gqabi District Municipality. South Africa as a whole is estimated to have an average annual growth rate of 1.4% which is higher than that of Joe Gqabi DM's growth rate.

Population density

In 2016, Joe Gqabi District Municipality had a population density of 14.5 per square kilometre and it ranked highest amongst its peers. The region with the highest population density per square kilometre was the Nelson Mandela Bay with a total population density of 646 per square kilometre per annum. In terms of growth, Joe Gqabi District Municipality had an average annual growth in its population density of 0.65% per square kilometre per annum. In terms of the population density for each of the regions within the Joe Gqabi District Municipality, Elundini local municipality had the highest density, with 28.9 people per square kilometre. The lowest population density can be observed in the Walter Sisulu local municipality with 6.48 people per square kilometre.

Table 2-2 Key demographic highlights

DEMOGRAPHICS	2011		2016	
	Number	**Percent**	**Number**	**Percent**
Population	348 667	-	372 912	-
Population growth	-	-	-	1.3
Population profile:				
• **Black African**	326 901	93.8	352 041	94.4
• **Coloured**	12 177	3.5	12 260	3.3
• **Indian or Asian**	632	0.2	647	0.2
• **White**	8 277	2.4	7963	2.1
Number of households	100 189	-	95 107	-
Household size	3.5	-	3.9	-
ACCESS TO WATER				
Piped water	73579	73.7	70427	74.1
No access to water	26208	26.3	24690	25.9
ACCESS TO SANITATION				
Flush toilet	26995	28.0	32431	34.1
Chemical	3539	3.7	8326	8.8
Pit toilet	46943	48.7	45608	48.0
Bucket	1742	1.8	1195	1.3
None	17105	17.8	5678	6.0

With 373 000 people, the Joe Gqabi District Municipality housed 0.7% of South Africa's total population in 2016. Between 2006 and 2016 the population growth averaged 0.65% per annum which is about half than the growth rate of South Africa as a whole (1.54%). Compared to Eastern Cape's average annual growth rate (0.83%), the growth rate in Joe Gqabi's population at 0.65% was slightly lower than that of the province.

When compared to other regions, Joe Gqabi District Municipality accounts for a total population of 373,000, or 5.3% of the total population in Eastern Cape Province ranking as the most populous district municipality in 2016. The ranking in terms of the size of Joe Gqabi compared to the other regions remained the same between 2006 and 2016. In terms of its share Joe Gqabi District Municipality was very similar in 2016 (5.3%) compared to what it was in 2006 (5.4%).When looking at the average annual growth rate, it is noted that Joe Gqabi ranked sixth (relative to its peers in terms of growth) with an average annual growth rate of 0.7% between 2006 and 2016.

Migration Patterns

The levels of out-migration from Joe Gqabi are higher than the provincial average. At least 18% of District households against 15.2% of provincial households reports of at least one migrant household member. Approximately, 7% of the District population overall migrates from their households, while the provincial migration rate amounts to 5.6% of the provincial population.

Table 2-3 Demographic implications on water services

Issue	Status Quo	Proposed sector intervention
Overall population	Stable population growth throughout the District with an exception of former Maletswai where there was increment of 16%	Water Services Development Plan to prioritise long term investment into the growth areas
Migration	Higher out-migration rate which is above provincial rate	Local Economic Development strategy to deal with business retention and attraction. Introduce small town regeneration programmes.

2.2 ECONOMY

As with the rest of the world and the country, the economy JGDM has been severely affected by the COVID-19 pandemic. The unemployment rate has increased drastically to about 45% for the youth. The District Development model promotes creation of all of government action towards repositioning the District Space economies. The economic development programme that is driven by the District entity JoGEDA is seen as a potential game changer for the District. Successful implementation of the envisaged development trajectory will largely depend on creation of functional partnerships between government, business and civil society. Economic repositioning agenda must seek to alleviate the issues stated below.

With a GDP of R 10.4 billion in 2016 (up from R 3.87 billion in 2006); the Joe Gqabi District Municipality contributed 3.09% to the Eastern Cape Province GDP of R 338 billion in 2016 increasing in the share of the Eastern Cape from 2.72% in 2006. The Joe Gqabi District Municipality contributes 0.24% to the GDP of South Africa which had a total GDP of R 4.34 trillion in 2016 (as measured in nominal or current prices). Its contribution to the national economy stayed similar in importance from 2006 when it contributed 0.21% to South Africa. In terms of total contribution towards Eastern Cape Province the Joe Gqabi District Municipality ranked lowest relative to all the regional economies to total Eastern Cape Province GDP. This ranking in terms of size compared to other regions of Joe Gqabi remained the same since 2006. In terms of its share, it was in 2016 (3.1%) slightly larger compared to what it was in 2006 (2.7%). For the period 2006 to 2016, the average annual growth rate of 2.8% of Joe Gqabi was the second relative to its peers in terms of growth in constant 2010 prices. GDP contribution per municipality is shown in table 3 below.

Table 2-4 Gross Domestic Product (GDP) Share and Growth

	2016 (Current prices)	Share of district municipality	2006 (constant prices)	2016 (constant prices)	Average annual growth
Elundini	2.10	20.10%	1.22	1.43	1.60%
Senqu	3.07	29.42%	1.61	2.09	2.61%
Walter Sisulu	5.27	50.48%	2.50	3.54	3.55%
JGDM	10.44	-	5.33	7.06	-

The Walter Sisulu had the highest average annual economic growth, averaging 3.55% between 2006 and 2016, when compared to the rest of the regions within the Joe Gqabi District Municipality. The Senqu local municipality had the second highest average annual growth rate of 2.61%. Elundini local municipality had the lowest average annual growth rate of 1.60% between 2006 and 2016. The greatest contributor to the Joe Gqabi District Municipality economy is the Walter Sisulu local municipality with a share of 50.48% or R 5.27 billion, increasing from R 1.84 billion in 2006. The economy with the lowest contribution is the Elundini local municipality with R 2.1 billion growing from R 869 million in 2006.

According to ECSSEC, it is expected that Joe Gqabi District Municipality will grow at an average annual rate of 1.84% from 2016 to 2021. The average annual growth rate of Eastern Cape Province and South Africa is expected to grow at 1.62% and 1.61% respectively. The GDP share and growth per local municipality is shown in the table below.

Table 2-5 Gross Domestic Product (GDP) Share and Growth

	2021 (Current prices)	Share of district municipality	2016 (constant prices)	2021 (constant prices)	Average annual growth
Elundini	2.89	37.42%	1.43	1.52	1.28%
Senqu	4.42	57.21%	2.09	2.32	2.13%
Walter Sisulu	7.46	96.47%	3.54	3.89	1.89%
JGDM	14.77	-	7.06	7.73	-

In 2021, Joe Gqabi's forecasted GDP will be an estimated R 7.73 billion (constant 2010 prices) or 3.1% of the total GDP of Eastern Cape Province. The ranking in terms of size of the Joe Gqabi District Municipality will remain the same between 2016 and 2021, with a contribution to the Eastern Cape Province GDP of 3.1% in 2021 compared to the 3.0% in 2016. At a 1.84% average annual GDP growth rate between 2016 and 2021, Joe Gqabi ranked the second compared to the other regional economies.

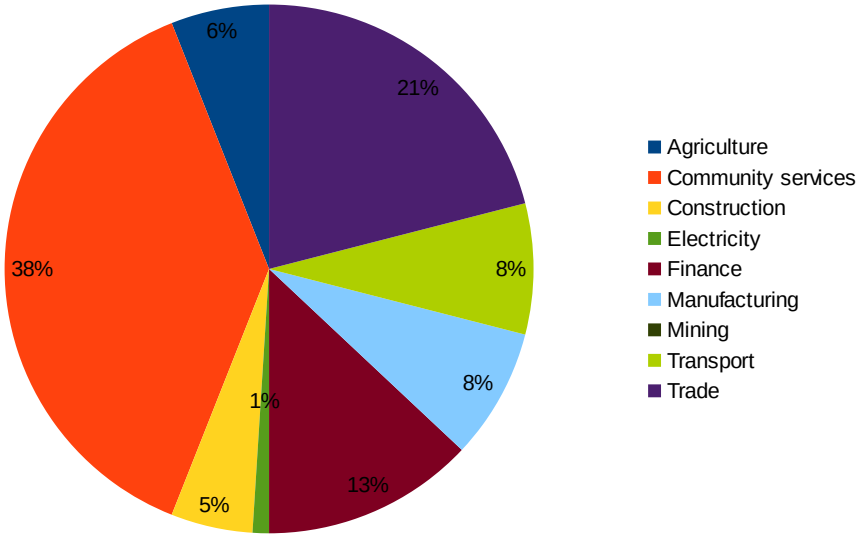

Figure 2-1 Gross Value Added (GVA) by Broad Economic Sector

In 2016, the community services sector is the largest within Joe Gqabi District Municipality accounting for R 3.6 billion or 38.4% of the total GVA in the district municipality's economy. The sector that contributes the second most to the GVA of the Joe Gqabi District Municipality is the trade sector at 20.8%, followed by the finance sector with 13.1%. The sector that contributes the least to the economy of Joe Gqabi District Municipality is the mining sector with a contribution of R 15.3 million or 0.16% of the total GVA. The community sector, which includes the government services, is generally a large contributor towards GVA in smaller and more rural local municipalities.

2.3 LABOUR

The Joe Gqabi District Municipality's labour force participation rate increased from 43.17% to 46.28% which is an increase of 3.1 percentage points. The Eastern Cape Province increased from 47.58% to 47.93%, South Africa increased from 56.37% to 58.77% from 2006 to 2016.The Joe Gqabi District Municipality labour force participation rate exhibited a higher percentage point change compared to the Eastern Cape Province from 2006 to 2016. The Joe Gqabi District Municipality had a lower labour force participation rate when compared to South Africa in 2016.

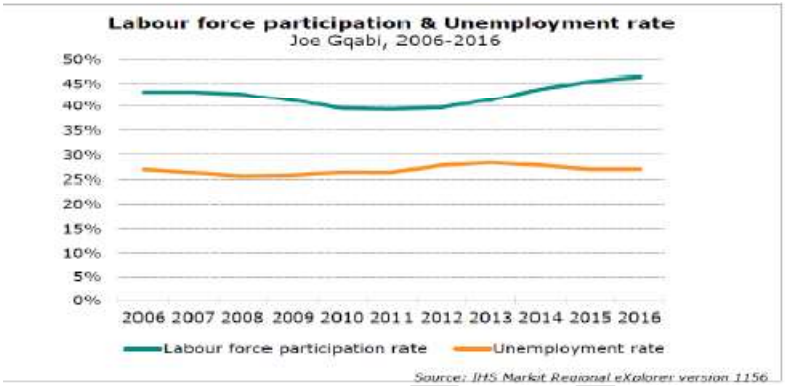

Figure 2-2 Labour Force participation

In 2016, the labour force participation rate for Joe Gqabi was at 46.3% which is slightly higher when compared to the 43.2% in 2006. The unemployment rate is an efficient indicator that measures the success rate of the labour force relative to employment. In 2006, the unemployment rate for Joe Gqabi was 27.0% and increased overtime to 27.0% in 2016. The gap between the labour force participation rate and the unemployment rate decreased which indicates a negative outlook for the employment within Joe Gqabi District Municipality.

In 2016, Joe Gqabi employed 75 700 people which is 5.20% of the total employment in Eastern Cape Province (1.46 million), 0.48% of total employment in South Africa (15.7 million). Employment within Joe Gqabi increased annually at an average rate of 1.67% from 2006 to 2016.

Table 2-6 Total Employment

Year	JGDM	Eastern Cape	National
2006	64,100	1,330,000	13,000.000
2007	65,300	1,350,000	13,500.000
2008	65,800	1,350,000	14,100.000
2009	64,000	1,320,000	14,000.000
2010	61,300	1,260,000	13,600.000
2011	61,500	1,260,000	13,800.000
2012	61,300	1,270,000	14,000.000

2013	63,900	1,310,000	14,500.000
2014	69,000	1,370,000	15,100.000
2015	73,200	1,430,000	15,500.000
2016	75,700	1,460,000	15,700.000
Average annual growth			
2006-2016	**1.67%**	**0.91%**	**1.89%**

In Joe Gqabi District Municipality the economic sectors that recorded the largest number of employment in 2016 were the community services sector with a total of 20 900 employed people or 27.6% of total employment in the district municipality. The trade sector with a total of 15 800 (20.9%) employs the second highest number of people relative to the rest of the sectors. The mining sector with 74.9 (0.1%) is the sector that employs the least number of people in Joe Gqabi District Municipality, followed by the electricity sector with 237 (0.3%) people employed.

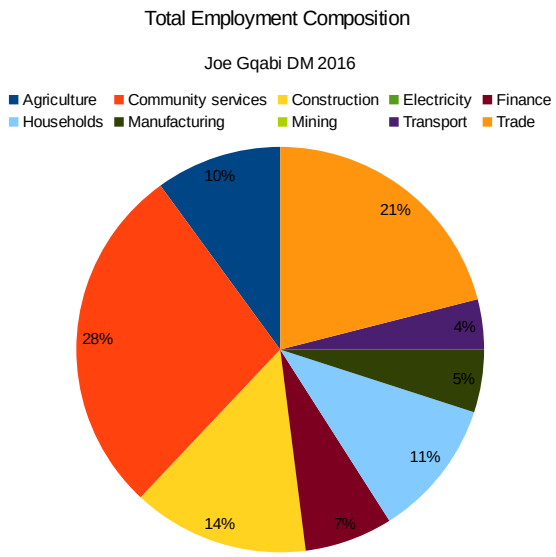

Figure 2-3 Total Employment by Economic Sector

The number of formally employed people in Joe Gqabi District Municipality counted 53 600 in 2016, which is about 70.77% of total employment, while the number of people employed in the informal sector counted 22 100 or 29.23% of the total employment. Informal employment in Joe Gqabi increased from 20 000 in 2006 to an estimated 22 100 in 2016. In 2016, the

unemployment rate in Joe Gqabi District Municipality (based on the official definition of unemployment) was 27.03%, which is an increase of 0.0529 percentage points. The unemployment rate in Joe Gqabi District Municipality is lower than that of Eastern Cape. The unemployment rate for South Africa was 26.33% in 2016, which is an increase of -0.563 percentage points from 25.77% in 2006.

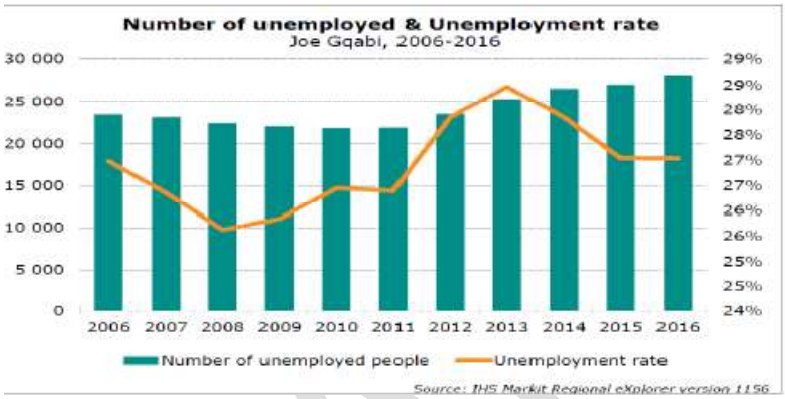

Figure 2-4 Unemployment and unemployment rate

When comparing unemployment rates among regions within Joe Gqabi District Municipality, Elundini local municipality has indicated the highest unemployment rate of 36.0%, which has increased from 32.5% in 2006. It can be seen that the Walter Sisulu local municipality had the lowest unemployment rate of 18.3% in 2016, which decreased from 19.8% in 2006 (see Figure 2-5).

Figure 2-5 Unemployment rate by LM

It was estimated that in 2016 20.55% of all the households in the Joe Gqabi District Municipality, were living on R30, 000 or less per annum. In comparison with 2006's 57.55%, the number is about half. The 30000-42000 income category has the highest number of households with a total number of 15 000, followed by the 18000-30000 income category with 14 000 households. Only 14 households fall within the 0-2400 income category.

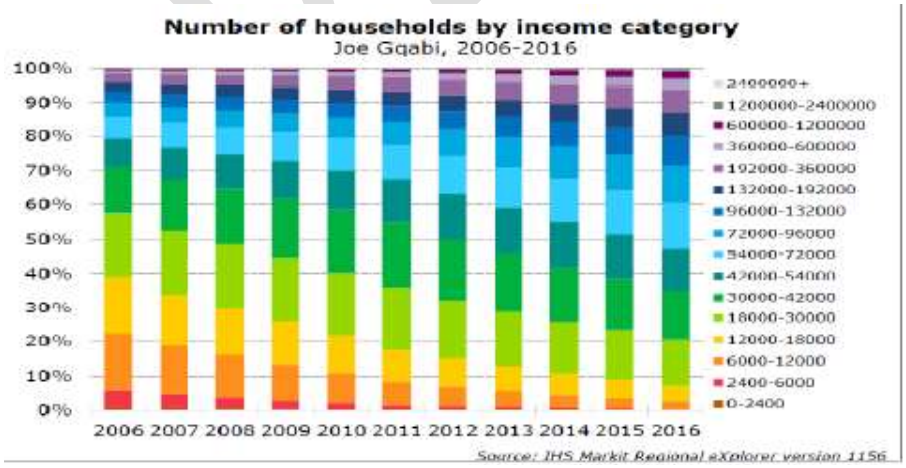

Figure 2-6 Household income by income bracket

For the period 2006 to 2016 the number of households earning more than R30, 000 per annum has increased from 42.45% to 79.45%. It can be seen that the number of households with income equal to or lower than R6, 000 per year has decreased by a significant amount.
The total personal income of Joe Gqabi District Municipality amounted to approximately R 12.7 billion in 2016. The African population group earned R 10.2 billion, or 80.56% of total personal income, while the White population group earned R 1.82 billion, or 14.31% of the total personal income. The Coloured and the Asian population groups only had a share of 4.53% and 0.60% of total personal income respectively.

When looking at the annual total personal income for the regions within Eastern Cape Province it can be seen that the Walter Sisulu local municipality had the highest total personal income with R 4.68 billion which increased from R 1.54 billion recorded in 2006. It can be seen that the Elundini local municipality had the lowest total personal income of R 3.85 billion in 2016, this increased from R 1.44 billion in 2006.

In 2016, Joe Gqabi District Municipality had an HDI of 0.564 compared to the Eastern Cape with a HDI of 0.596 and 0.653 of National Total as a whole.

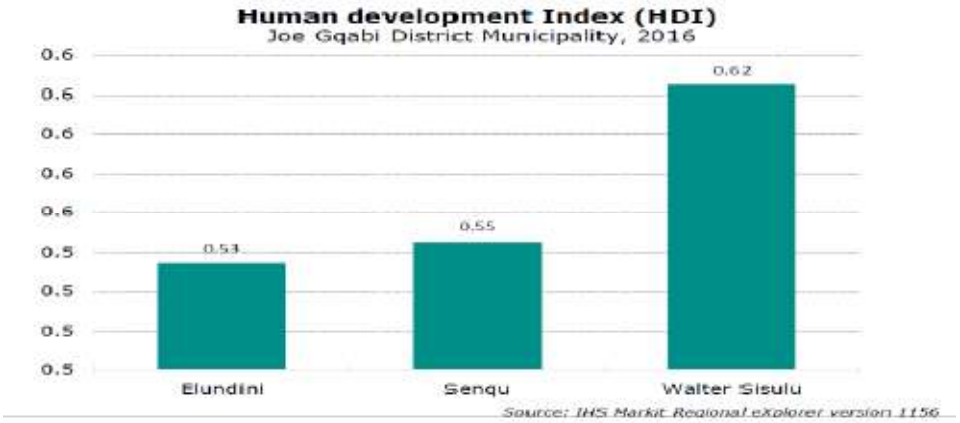

Figure 2-7 Human Development Index (HDI)

In terms of the HDI for each the regions within the Joe Gqabi District Municipality, Walter Sisulu local municipality has the highest HDI, with an index value of 0.625. The lowest can be observed in the Elundini local municipality with an index value of 0.535.

In 2016, there were 239 000 people living in poverty, using the upper poverty line definition, across Joe Gqabi District Municipality - this is 6.33% lower than the 255 000 in 2006. The percentage of people living in poverty has decreased from 73.04% in 2006 to 64.09% in 2016, which indicates a decrease of 8.95 percentage points.

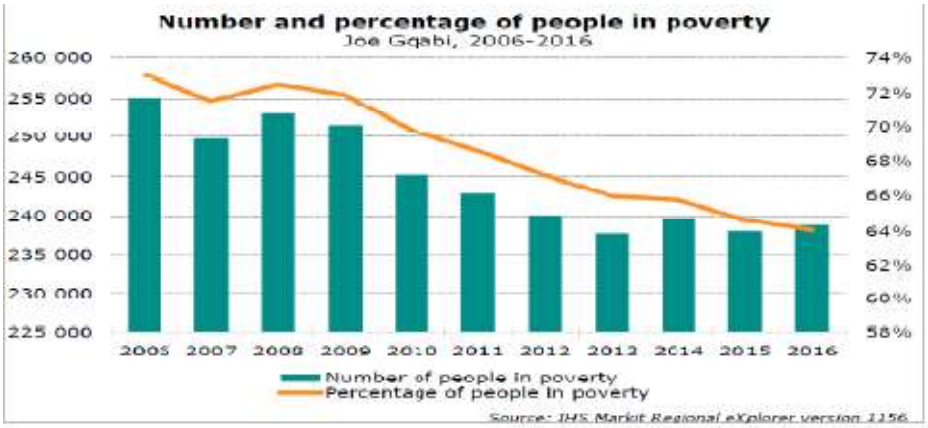

Figure 2-8 Number and percentage of people living in poverty

In 2016, the population group with the highest percentage of people living in poverty was the White population group with a total of 0.7% people living in poverty, using the upper poverty line definition. The proportion of the White population group, living in poverty, decreased by 0.243 percentage points, as can be seen by the change from 0.72% in 2006 to 0.48% in 2016. In 2016, 66.49% of the African population group lived in poverty, as compared to the 75.73% in 2006.

In terms of the percentage of people living in poverty for each of the regions within the Joe Gqabi District Municipality, Elundini local municipality has the highest percentage of people living in poverty, using the upper poverty line definition, with a total of 69.5%. The lowest percentage of people living in poverty can be observed in the Walter Sisulu local municipality with a total of 51.2% living in poverty, using the upper poverty line definition.

Table 2-7 Economy dynamics implications

Issue	Status Quo	Sectoral Intervention required
GGP	Low economic activity	Invest in industrial development focusing on agricultural and tourism downstream industry
Sectoral performance	Four main sectors in 2010 were community services, finance, Trade, Trade, Manufacturing & Agriculture. Three main sectors are community services have been the driver of growth	Promote agriculture sector performance
Income levels	Low income levels	Focus on skills development through education
Employment and Income	There is high unemployment and more than two third of the population lives below poverty line	Labour intensive infrastructure development initiatives and mass job creation initiatives must continue
Poverty and inequality	High rate of poverty	Promote creation of economic growth and sustainable job opportunities. Promote access to social safety nets
Human development index	The level of development within the District does not reflect living conditions	Maintain high levels of access to health services and education
Employment by sector	Constant decline in employment in agriculture	Support agriculture and develop upstream and downstream industry

2.4 SOCIO ECONOMIC CHALLENGES AND RISKS

The following socio-economic issues and challenges within the district with regard to water services planning and provision have been identified:

1. Limited economic development and activity in the district;
2. Failure to improve the current state of infrastructure possesses a serious threat to the local economy development initiatives of both public and private institutions;
3. The Department of Human Settlements often has housing development commitments that do not align with the district's development objectives and capacity of the existing water services infrastructure;

4. Levels of service and backlogs are a moving target as a result of growing settlements and towns;
5. Illegal connections to upgrade household's levels in an unstructured and often damaging manner is rife;
6. Bucket toilets are available in a number of informal settlements in Barkly East, Lady Grey and Sterkspruit. The district is servicing them in order to avert any possible public and environmental health impacts; and
7. A substantially low portion of the population that can afford high level of water services.

2.5 2022/2023 SOCIO-ECONOMIC OBJECTIVES AND STRATEGIES

JGDM has the following strategies that will assist the municipality to address the main issues and concerns in the shortest possible time.

1. Implement labour intensive projects that will help in the alleviation of poverty and creating jobs (aligned to EPWP);
2. Quantify and report on jobs created and local SMMEs benefiting through municipal infrastructure projects;
3. Effective development and regular update of the Indigent Register and Policy in collaboration with the three local municipalities and Eskom in order to ensure qualifying households benefit;
4. Effective rehabilitation, refurbishment and maintenance of existing infrastructure to ensure that the district creates an enable environment for economic activities; and
5. Create a pro-active yet cost effective response to drought.

SECTION 3: WATER SERVICES INSTITUTIONAL ARRANGEMENT

The Water Services Institutional Arrangement profile of Joe Gqabi District Municipality outlines the institution's structural and operational design of water supply and sanitation services provision within its various departments in order to enhance good governance, effective service delivery and understanding the competing demands for resources within the municipality.

JGDM is a Water Services Authority under Section 84 of the Municipal Structures Act (No117 of 1998) and the municipality has also decided to fulfill the Water Services Provider function for the local municipalities that fall within its area of jurisdiction. The District Municipality has consolidated its water services functions in the district in order to provide for improved control, cost effectiveness and accountability.

Therefore, current situation regarding water services in Joe Gqabi District Municipality is that the municipality is both the legislated Water Services Authority (with full regulation and oversight functions) and the Water Services Provider (with full delivery functions). However, these functions are separated between the various Departments to limit the chances of conflicting obligations and improve oversight and reporting.

The Constitution of South Africa, Act 108 of 1996, assigns responsibility of ensuring *access to water services* to local government. The role of the national and provincial spheres of government is to support, monitor and regulate local government. As a Water Services Authority, the primary mandate/responsibility of the municipality is outlined in Section 11(1) of the Water Services Act (Act 108 of 1997):

> *"Every water services authority has a duty to all customers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services".*

The other primary municipal functions that are required to be undertaken and support the provision of water services to all the residents within the district include:

- Planning: *preparing water services development plans (integration of financial, institutional, social, technical and environmental plans of the municipality)* to progressively ensure efficient, affordable, economical and sustainable access to water.
- *Human resources management and development* to ensure that the municipality has adequate and competent administrative, technical and scientific personnel in order to ensure effective and efficient water services provision.

- *Financial management* in terms of review and development of water services tariffs, metering, billing, revenue collection and management of the Indigent Register.
- *Regulation* of water services provision and water services providers (*by-laws, contract regulation, monitoring, and performance management).*
- *Project Management* including the project planning, design, development and monitoring.
- *Communication*: consumer education and awareness, and communication (customer care, health and hygiene promotion, water conservation and demand management, information sharing, communication, and development of consumer charter).

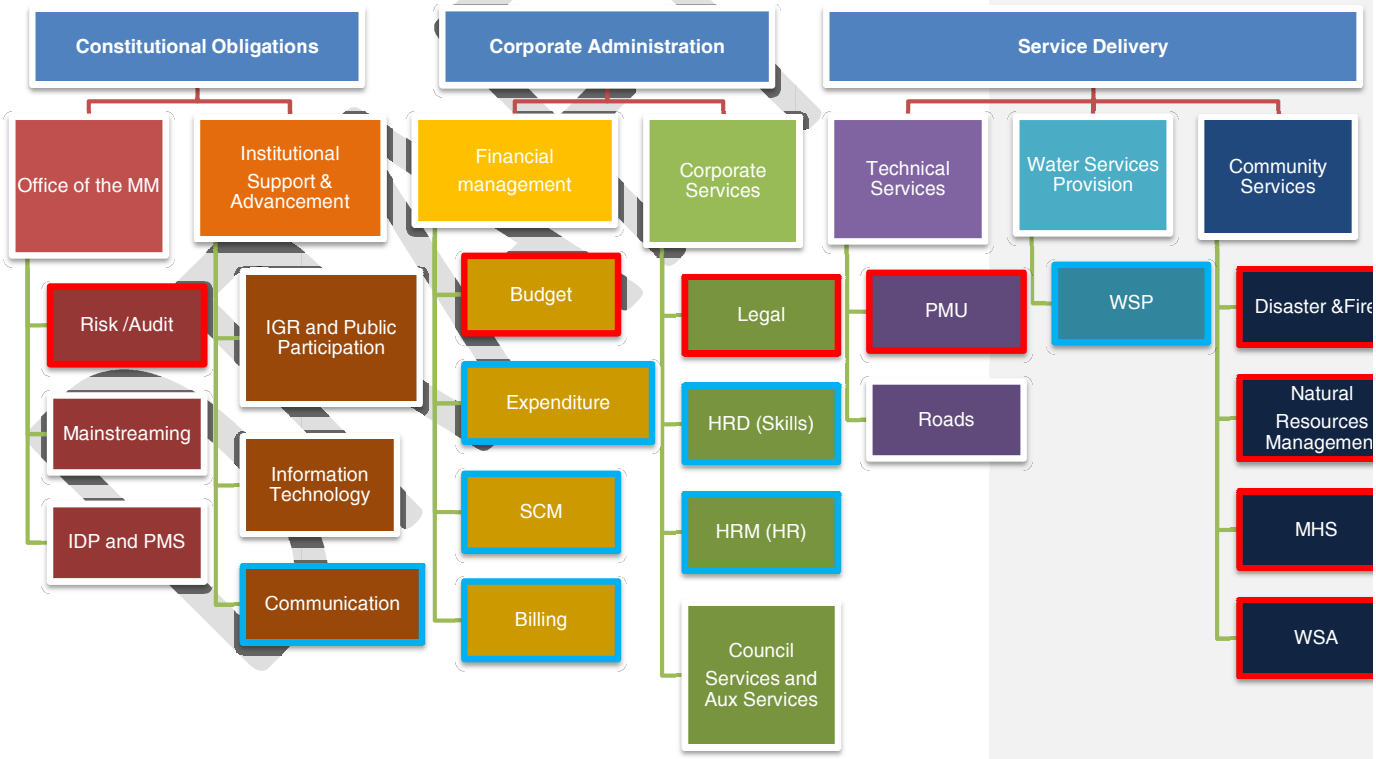

Figure 3-1 Water Services Authority Organogram

3.1 REGULATION

The Water Services Authority section located within the Community Services Department provides the internal regulatory oversight on water services provision and is responsible to ensure that services are provided effectively, efficiently, sustainably and affordably. The function is implemented through a Service Level Agreement (SLA) with all the applicable Departments which clearly specifies the roles and responsibilities between the regulator and the provider.

Operational performance monitoring and management is also the function of the WSA and is undertaken through the use of information gathered from the various functions to ascertain the performance of the District Municipality in terms of all the water supply and sanitation services operational areas. .

The functioning of municipal drinking water and wastewater sampling is undertaken by the Environmental Health Practitioners in Municipal Health Services section that is also located in the Community Services Department. The WSA manages and finances the water and effluent quality testing and compliance with legislative requirements. However, at the moment the municipality outsources its scientific services for the drinking water and wastewater regulatory and operational water quality analysis to the SANAS-accredited East London Industrial Development Zone (ELIDZ) Laboratory Services. ~~The long-term intention of the municipality is to establish its own accredited water testing laboratory as this will ensure that this service is integrated into the operations of the district with the benefit of operational efficiency and business opportunities.~~

The WSA is also responsible for the water services planning through the legislated requirements of the compilation and submission of a municipal-wide Water Services Development Plan (WSDP) and the Master Plans for water supply and sanitation. Furthermore, it is also responsible for the development, review and implementation of the Water and Sanitation Services By-laws that were Gazetted in 2015 and contribute to the annual review of the water supply and sanitation tariffs in terms of the Water Services Act (108 of 1997) including the compliance with legislative reporting for its area of jurisdiction.
Furthermore, the WSA facilitates the carrying out of research and development within the district on the latest water and sanitation services technologies to ensure that JGDM adheres to current practices.

3.2 WATER SUPPLY AND SANITATION

The Water Services Provision (WSP) section is responsible for the operations and maintenance of the water and wastewater treatment works in all local municipalities within JGDM (that is Elundini, Senqu and Walter Sisulu Local Municipalities). It is also responsible for the bulk and reticulation networks and storage facilities in the aforementioned municipalities; and the operations and maintenance of water services infrastructure management developed through the drought relief funding.

The community education and awareness in terms of water supply and sanitation services is a function of the WSP's ISD sub-section with relevant personnel located in all the three local municipal areas.

3.3 INFRASTRUCTUER DEVELOPMENT AND PROJECT MANAGEMENT

All the development of new municipal water and sanitation infrastructure is undertaken by the Project Management Unit which resides within the Technical Services Department. This section also deals with the management of the funding of projects for which applications have been received and the implementation thereof. The strategic objectives of this unit are to provide services including engineering and social facilitation to address the current water supply and sanitation backlogs.

However, the municipality still utilizes service providers for the infrastructure design and contracts management due to capacity challenges and office accommodation.

3.4 BILLING AND REVENUE COLLECTION

The Finance Directorate provides support in the metering, billing and revenue collection processes for the bulk and retail water services functions. In addition, the Chief Financial Officer and the Water Services Authority administer the process for the review and approval of annual water and sanitation tariffs in line with the applicable prescripts provided for by the Department of Water and Sanitation, and National Treasury.

The Directorate further manages the district's Indigent Register in collaboration with the three local municipalities and Eskom. Furthermore, the Prepaid Metering Programme is also located and managed by the Chief Financial Officer.

3.5 INTEGRATED DEVELOPMENT PLANNING

According to Section 25 of the Municipal Systems Act (Act 32 of 2000): "Each municipal council must adopt a single, inclusive and strategic plan for the development of the municipality which:

- Links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality;
- Aligns the resources and capacity of the municipality with the implementation of the plan; and
- Forms the policy framework and general basis on which annual budget must be based."

This WSDP is one of the sector plans that feed into, and takes direction from the district's Integrated Development Plan and the JGDM's Integrated Development plan of the new council for the 2022/23 – 2026/27 Financial Years was approved in May 2022.

3.6 INSTITUTIONAL ARRANGEMENT CHALLENGES AND RISKS

- Outdated Water and Sanitation By-Laws and inadequate implementation thereof;
- Lack of adequately qualified technical and supervisory personnel for all the needs of municipality owing to high staff turnover, and attraction of qualified and experienced personnel;
- Non-compliance to Occupational Health and Safety (OHS) that has led to legal, financial and service delivery implications for the municipality;
- There has not been any consensus reached to date in terms of an adopted technology option for the rural sanitation facilities to be provided;

3.7 INSTITUTIONAL ARRANGEMENT OBJECTIVES AND STRATEGIES:

- Review of the draft Water and Sanitation By-laws through the community consultations and council-approval of the final by-laws;
- Finalize WSA structure and appointment of Peace Officers to facilitate the implementation and enforcement of the By-Laws;
- Finalize the review of the district's organogram and filling of vacant posts within the Water Services Provision section;
- Ensuring that all municipal process controllers are registered on the DWS' Integrated Regulatory and Information System (IRIS);

SECTION 4: SERVICE LEVEL PROFILE

The Water Services Act provides for the access to a basic water supply and sanitation services, and regulations specify the minimum levels of service to be provided by a municipality to all households within its area of jurisdiction.

The definition of service levels was influenced by the Reconstruction and Development Plan (RDP) to comprise a water supply standpipe with a maximum walking distance of 200m from each household, and a Ventilated Improved Pit (VIP) latrine sanitation system. This standard has endured, but has been modified by desired goal set in the Strategic Framework for Water Services (SFWS). The concept of Basic Services has been defined to ensure consistency in compliance with the objectives of policy and legislation and the expectations of people. These definitions were set in the SFWS in 2003.

- ***Basic Water Supply Service*** entails the provision of a basic water supply facility, the sustainable operation of the facility (available for at least 350 days per year and *not interrupted for more than 48 consecutive hours per incident*) and the communication of good water-use, hygiene and related practices. A minimum quantity of potable water per person per day or 6kilolitres per household per month.
- ***Basic Sanitation Supply Service*** encompasses the provision of a basic sanitation facility which is easily accessible to a household, the sustainable operation of the facility, including the safe removal of human waste and wastewater from the premises where this is appropriate and necessary, and the communication of good sanitation, hygiene and related practices.

Levels of service change overtime as the move from being less basic to higher level of service. This is aligned to the concept of the water ladder, with the input of the Department of Water and Sanitation continually striving to raise the bar in this regard. A challenge and risk is ensuring the balance between appropriate level of service and affordability, and sustainability of the service.

4.1 JGDM WATER AND SANITATION SERVICES BY-LAWS

The Water Services Act (Act 107 of 1998) advises that all Water Services Authorities devise water and sanitation services by-laws to govern the provision of services and to give effect to policy. The JGDM has devised a set of by-laws to regulate the provision of services including water and sanitation. The JGDM Water and Sanitation Services By-laws were gazetted in the

Eastern Cape Provincial Gazette on 31 August 2015 and the review thereof was started in the 2021/2022 municipal financial year with consultations with the relevant institutions. The ward-based community consultations will follow in the 2023/2024 financial year throughout the three local municipalities.

The by-laws allow for the existence of three levels of water supply and sanitation services, namely:

Table 4-1 JGDM water supply and sanitation Levels of Services

Level of service	Water Supply	Sanitation
1. Basic/ RDP	Stand pipe within 200m from each household	VIP toilet
2. Intermediate	Yard connection	Conservancy/ septic tank / French drain
3. High	House connection	Waterborne & linked to municipal WWTW

The *Basic Service Level* of service of reticulated standpipes or stationary water tank serviced either through a network pipe or a water tanker located within a reasonable walking distance from any household with a ventilated improved pit latrine located on each premises, with premises meaning the lowest order of visibly demarcated area on which some sort of informal dwelling has been erected. The standpipe is installed free of charge to the consumers and maintained by the municipality.

The *Intermediate Service Level* is a yard connection, not connected to any water installation and an individual connection to the municipality's sanitation system consisting of an un-metered standpipe on a premises' and a pour-flush toilet pan, wash-through and suitable toilet top structure connected to the Municipality's sanitation system.

The *Full Service Level* entails a metered pressured water connection with an individual connection to the Municipality's sanitation system, installed against payment of the relevant connection charges, provided against payment of prescribed charges and the on-site water and drainage installations maintained by the consumer.

The improved households' standard of living and urbanization evident from the urban sprawl and the extent and magnitude of houses being built in the peri-urban and rural areas of Herschel, Mt Fletcher and Sterkspruit will necessitate the municipality to consider the application of yard connections as the basic level of service instead of the standpipes. That will

require an analysis to determine the costs with regard to raw water purchases, infrastructure development and Operations & Maintenance costs vis-à-vis the enhanced service delivery, improved revenue and illegal connects (RE: vandalism).

The status of services coverage is initially derived from the 2011 national census and augmented by information from the 2016 Community Survey. The backlog status is not static and can improve or deteriorate based on population dynamics for specific areas.

The western parts of the JGDM are dominated by large tracts of commercial farms, with limited to no rural settlements. Human settlements are concentrated in urban and peri-urban nodes. The eastern parts of the DM have a settlement pattern characterised by the occurrence of large tracts of trust land and hence traditional rural settlements with some urban nodes. Migration patterns driven by socio-economic factors result in a regular movement of people from the rural settlements to the urban nodes and beyond to larger urban nodes outside of the district. There is often a seasonal pattern of people returning to the rural villages in the holiday periods (March/April and December/January).

4.2 SETTLEMENT WATER SUPPLY

The consolidated water supply provision landscape of the district is depicted in the table below as sourced from the Statistics South Africa's 2016 Community Household Survey.

Table 4-2 JGDM Household access to water (CS 2016)

	Access to piped water		No access to piped water	
	%			
	2011	**2016**	**2011**	**2016**
Joe Gqabi	73.7	74.1	26.3	25.9
EC141 : Elundini	52.2	61.7	47.8	38.3
EC142 : Senqu	81.2	72.2	18.8	27.8
EC145 : Walter Sisulu	98.1	95.4	1.9	4.6

According to the Statistics South Africa's 2016 Community Services, and estimated 74.1% of the district households which is a slight increase from the Census 2011 figure of 73.7%.

4.3 SETTLEMENT SANITATION SERVICES

The sanitation services categories within the district encompasses waterborne in the urban nodes, septic tanks in some of the urban and peri-urban centres, and Ventilated Improved Pit (VIP) latrines in the some of the urban and rural areas. The situation in the district is summarised in the table below as per the 2016 Community Survey:

Table 4-3 JGDM Household access to sanitation (CS 2016)

	Flush toilet		Chemical toilet		Pit latrine		Bucket		None	
	2011	2016	2011	2016	2011	2016	2011	2016	2011	2016
	%									
Joe Gqabi	28.0	34.1	3.7	8.8	48.7	48.0	1.8	1.3	17.8	6.0
EC141 : Elundini	12.0	14.9	2.9	17.3	60.6	58.5	0.7	0.0	23.8	7.1
EC142 : Senqu	14.2	18.2	5.1	3.6	62.9	68.1	1.7	2.6	16.1	6.7
EC145 : Walter Sisulu	78.4	86.8	2.6	3.6	4.7	1.7	3.7	1.1	10.5	3.1

The CS2016 picture below shows that the JGDM's efforts to eradicate sanitation backlogs have progressed well in the five years since Census 2011. The backlog was indicated to stand at 25.12%. This translates to an additional 17 772 households receiving sanitation between 2011 and 2016, at an average rate of 3 554 households per annum.

Table 4-4: Sanitation Provision and Backlogs, JGDM in CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	53 585	54,80%	71 357	74,88%
Those without an Adequate Level of Service	44 191	45,20%	23 937	25,12%
Total	97 776	100,00%	95 294	100,00%

This delivery rate can improve with more funding and improved delivery mechanism and experience gained in the past. The backlog is still 23 937 units, implying an elimination of the currently defined backlog within 7 years, at about 2024. The table below shows the picture in Elundini in 2011.

Table 4-5: Sanitation Provision and Backlogs in Elundini LM

Elundini	No Service	Below RDP	RDP	Above RDP	Total	Backlog Per Category
Rural	7201	11147	6863	1266	26477	79.00%
Urban	1428	3462	2381	4034	11305	21.00%
Total	8629	14609	9244	5300	37782	100.00%
Percentage	22.80%	38.70%	24.50%	14.00%	100.00%	

As in the case with water supply services, Elundini LM had substantial backlogs in sanitation. A total of 61.5% of households in the LM had less than an RDP level of service. This required substantial investment to reverse this status quo. CS 2016 returned the following picture in Elundini LM in 2016:

Table 4-6: Sanitation Provision and Backlogs in Elundini, CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	14 544	38,49%	26 898	74,73%
Those without an Adequate Level of Service	23 238	61,51%	9 094	25,27%
Total	37 782	100.00%	35 992	100,00%

There has been a substantial reduction in the backlogs for sanitation in Elundini LM, with the backlog having reduced from 61.5% to 25.27% of households. Numerically, some 12 354 households in this LM have been provided with an adequate sanitation facility between 2011 and 2016. This is the bulk of sanitation facilities that have been provided in the DM over the five-year inter-census period. The situation in Senqu LM is described below:

Table 4-7: Sanitation Provision and Backlogs in Senqu LM

Senqu	No Service	Below RDP	RDP	Above RDP	Total	Backlog Per Category
Rural	4550	11074	9203	2111	26938	77.10%
Urban	1352	3286	1475	4941	11054	22.90%
Total	5902	14360	10678	7052	37992	100.00%
Percentage	15.50%	37.80%	28.10%	18.60%	100.00%	

Service levels below the RDP standard also had a high incidence in the Senqu LM in 2011. An estimated 53.3% of households were below the RDP standard of supply. The recent situation, as per CS 2016, is described in the table below:

Table 4-8: Sanitation Provision and Backlogs in Senqu LM, CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	17 730	46,67%	22 746	63,90%
Those without an Adequate Level of Service	20 262	53,33%	12 850	36,10%
Total	37 992	100.00%	35 597	100,00%

Some 5 016 households have received a sanitation facility that complies with the RDP standard. The backlog has been reduced from 53.3% to 36.1%.

Maletswai and Gariep LMs are described below as they were independent LM areas in the last year. Maletswai LM had a lower incidence of sanitation backlogs compared to the LM's in the east of JGDM. The below-RDP level was also at a relatively low incidence at 17.8% of households, with 2 152 households in need of adequate sanitation. The CS 2016 situation for the Maletswai area is depicted below:

Table 4-9: Sanitation Provision and Backlogs in Maletswai LM, CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	9950	82.22%	12 364	88.46%
Those without an Adequate Level of Service	2 152	17.78%	1 614	11.54%
Total	12 102	100.00%	13 978	100,00%

The sanitation backlog has reduced from 17.8% to 11.54%. In terms of household units, this translates to 2 414 additional households reporting an adequate level of service. The backlogs remain, apparently due to the influx of people from other areas into the urban nodes in the Maletswai area, as the number of households has increased by 1 876. This influx can be expected as Aliwal North, as the main urban area of the DM will be a staging ground for out-migration from some rural areas in this hinterland.

The Gariep LM area also had a low incidence of services backlogs compared to the eastern LM's. Services below the RDP level occur in 18.1% of households. Some 1772 households were in need of adequate sanitation in 2011. The table below from CS 2016 paints the most recent picture with respect to sanitation in this area.

Table 4-10: Sanitation Provision and Backlogs in Gariep LM, CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	7 997	81.86%	9 348	96.10%
Those without an Adequate Level of Service	1 772	18.14%	379	3.90%
Total	9 769	100.00%	9 727	100,00%

There has been a telling impact as backlogs have been reduced from 18.1% of households to 3.9%. Some 1 351 additional households have been provided with an adequate sanitation facility.

The amalgamation of Gariep and Maletswai LMs has necessitated the consolidation of the Census 2011 status of the two erstwhile LM's to produce a consolidated profile for the new Water Sisulu LM, portrayed below:

Table 4-11: Sanitation Provision and Backlogs in Walter Sisulu LM, Census 2011

Walter Sisulu	No Service	Below RDP	RDP	Above RDP	Total	Backlog Per Category
Rural	1124	312	196	818	2450	36.60%
Urban	1045	1443	440	16493	19421	63.40%
Total	2169	1755	636	17311	21871	100.00%
Percentage	9.90%	17.90%	2.90%	79.20%	100.00%	

The consolidated 2016 Community Survey outline of the sanitation services in the amalgamated Walter Sisulu Local Municipal area is depicted in the table below:

Table 4-12: Sanitation Provision and Backlogs in Walter Sisulu LM, CS 2016

Level of Service Parameter	Census 2011	Census 2011 %	CS 2016	CS 2016 %
Those with an Adequate Level of Service	17 947	82.06%	21 712	91.59%
Those without an Adequate Level of Service	3 924	17.94%	1 993	8.41%
Total	21 871	100.00%	23 706	100,00%

The consolidated incidence of backlogs in Walter Sisulu LM stands at 8.41% of households without an adequate sanitation facility, representing some 1 993 households.

There is substantial work that must be undertaken in the JGDM area to eradicate water and sanitation backlogs. The situation in sanitation was dire in the Elundini area in 2011, but some impressive strides have been made between 2011 and 2016. This has and continues to receive the attention of the JGDM and will require substantial financing to improve and eradicate.

4.4 SERVICE LEVELS CHALLENGES AND RISKS

- Levels of service and basic services backlogs are not constant due to growing population, economy and urban sprawl;
- Illegal connections lead to unplanned upgrade of household's levels in an unstructured and often damaging manner is rife; and
- Inadequate information for decision making on how to frame the appropriate levels of service.
- Urban sprawl and illegal connections in rural areas

4.5 SERVICE LEVELS STRATEGIES AND OBJECTIVES

- Devise a sustainable approach to the provision of basic services to all residents;
- Continued implementation of the Integrated Water and Sanitation Master Plan is being developed through the DBSA-funded project;
- Revision of the Master Plans to ensure relevance and incorporate the infrastructure developed through previous and current projects; and
- Create a pro-active yet cost effective response to drought and other disasters.
- Council approved policy on yard connections and Prepaid Meter Installation in rural areas.

SECTION 5: WATER RESOURCES

The JGDM area is endowed with various surface and subterranean water resources. Surface water resources are in the form of rivers and dams established to utilise surface waters. Subterranean waters manifest in boreholes and springs that are harnessed to supply communities with water. The water resources described here are found in three of the Department of Water and Sanitation's Water Management Areas which are demarcated as the major drainage systems that traverse the district. These water management areas comprise a number of major rivers, dams and boreholes from which the municipality abstract water for the purpose of water services provision. Below is the list of the water management areas and the towns they provide water to:

- Upper Orange River Catchment: Aliwal North, Barkly East, Burgersdorp, Lady Grey, Herschel, Rhodes, Rossouw, Sterkspruit and Jamestown
- Mzimvubu Catchment – Maclear, Mt Fletcher and Ugie.
- Fish River Catchment – Steynsburg, Oviston and Venterstad.

In this chapter, the district illustrates the comprehensive inventory of the surface and groundwater sources currently utilized for the provision of water supply. Furthermore, based on a number of municipal and partner institutions, the district also attempts to outline some of the water sources available from within and/or in the proximity of the municipality to cater for its future demands.

5.1 SURFACE WATER

The Department of Water and Sanitation is the custodian of water resources and is also the owner of the major impoundments in the area, notably the Gariep Dam in the Walter Sisulu area and, the Jozana Dam that supplies the area of Sterkspruit, surrounding villages and Herschel. Major investigations and studies for bulk augmentation schemes are therefore undertaken by the DWS on well-motivated requests from the WSA.

Ideally, the municipality requires a comprehensive municipal-wide master plan in order to facilitate a better understanding of the water resource and water infrastructure serving the community within its jurisdiction. This master plan will set and recalibrate water resource levels against current and future demand projections, and also assist with the finalization of strategies for the eradication of backlogs and the setting of realistic and sustainable service levels (for the current and future settings).

In addition to the numerous dams inherited from DWS, the district has also constructed a number of small-scale municipal domestic water dams located throughout the district. Below is a list of municipal-owned dams as per the DWS Dam Safety Office:

Table 5-1 List of JGDM-owned dams

Name of Dam	Nearest Town	River or Watercourse	Capacity (1000 Cub M)
1. Barkly East Commonage Dam	Barkly East	Langkloof River Tr.	70
2. J.L .De Bruin Dam	Burgersdorp	Little Buffelsvlei River	1696
3. Kopfontein Dam	Burgersdorp	Buitendagspruit	1360
4. Chiappinisklip Dam 1	Burgersdorp	Stormbergspruit	900
5. Chiappinisklip No 2	Burgersdorp	Stormbergspruit	52
6. Jamestown Dam	Jamestown	Skulkspruit River Off-Channel	591
7. Witfontein Dam	Lady Grey	Findlay's Sloot	95
8. Lady Grey Dorps Dam	Lady Grey	Wilge Spruit	153
9. David Aucamp Dam	Maclear	Mooi River	180
10. Ugie Forest Dam	Ugie	Wildebeest River	3753

Owing to the magnitude and extent of the Mt Fletcher weir, it continues to the mistakenly referred to as a dam. The weir is constructed on the Thina River in order to increase the water levels upstream from where the municipality abstracts and supply water to the Mt Fletcher Water Treatment Works for distribution to a big portion of the area including the town centre. However, its functionality and long-term integrity is constantly threatened by the regular siltation of the facility and the district has undertaken some refurbishment of the sluice gates in order to improve the operational desilting of the weir. This has greatly enhance the water availability for the Mt Fletcher water treatment works.

The breaching of the wall of the Chiappinisklip Dam in February 2022 has affected the water source availability of the town of Burgersdorp and the repairs have not been finalized and will need to be endorsed by the Department of Water and Sanitation's Dam Safety Office to ensure that its structural integrity is adequate and acceptable. The municipality is currently not utilizing the dam due to the incomplete repairs to the abstraction infrastructure and this is one of the contributing factors to the town having "permanent" water supply restrictions.

As a result of the rainfall patterns in the district, most of the municipal-owned dams are seasonal dams as they fill up and even overflow during wet seasons and drastically drop during the low rainfall periods. This is especially the case in Burgersdorp, Jamestown, Lady Grey and Maclear wherein the municipality regularly implement water restrictions to regulate water supply and inefficient water usage.

The municipality applications for the following water supply dams have been approved for implementation pending the availability of budget:

- Zachtevlei Dam in Lady Grey; and
- Ugie Dam to augment water availability in Ugie and surrounds.

The Department of Water and Sanitation is undertaken a comprehensive project for the development of the Mzimvubu River Basin which will supply potable water to the lower rural areas of the district in Ward 6 of Elundini Municipal Area. Below is a list of the major rivers and tributaries that the district abstract from for the treatment and distribution of potable water:

Table 5-2 List of major rivers and tributaries within JGDM boundary and water demands

MUNICIPAL AREA	MAJOR TOWN	MAJOR RIVER/TRIBUTARY	WATER DEMANDS			
			GAADD kl/day 2019	SAADD kl/day 2019	GAADD kl/day 2040	SAADD kl/day 2040
Elundini	Maclear	Mooi River	1 696	2 627	2 889	4 335
	Mt Fletcher	Thina River	2 976	4 017	5 303	7 159
	Ugie	Wildebeest River	2 932	4 398	3 914	5 798
Senqu	Barkly East	Langkloofspruit	2 235	3 353	2 937	4 406
	Lady Grey	Lady Grey Dam	2 022	2 526	4 912	6 140
	Rhodes	Bell Spruit River	214	321	442	664
	Sterkspruit	Sterkspruit River	12 368	16 697	19 170	25 879
Walter Sisulu	Aliwal North	Orange River	8 171	12 256	9 803	14 703
	Jamestown	Skulkspruit River	681	1 021	644	966
	Burgersdorp	Stormbergspruit & Wonderboomspruit Rivers	3 373	5 060	5 714	8571
	Steynsburg	Orange-Fish River Tunnel	1 264	1 897	2 262	3 393
	Oviston/ Venterstad	Orange River (Gariep Dam)	1 893	2 839	2 236	3 354

The extent of the quantity and quality available in these water resources is important to understand the extent of future development of the resources, not only to support water for human consumptive needs, but also to gauge the extent to which water can support socio-economic development in the other economic sectors of the area, and how best to balance these.

Table 5.2 further highlights the discrepancies between the normal daily and summer water demands which are compounded by the Karoo-like climatic in the central and western parts of the districts (Senqu and Walter Sisulu Local Municipalities) which results in high evaporation and incidence of infrequent rainfalls.

The Department of Water and Sanitation is also responsible for the monitoring and dissemination of the hydrological data relating to the rivers and streams. The district does receive this data at regular intervals and needs to enhance its relationship with the department to inform its water resources and water supply development interventions.

5.2 GROUNDWATER

Groundwater plays an important role in provision of water in South Africa because it serves as a primary source for areas that are located remotely from surface water resources but also is seen as part of the mitigation in times of drought in the urban areas.

The main aim in areas with insufficient surface water resources us to use groundwater water as far as viable. Groundwater water, provided that there are no serious quality constraints, is generally more cost effective as treatment costs (capital and operational) are limited and affordable.

The availability of groundwater depends on soil and geological conditions of the area. Good groundwater can be found throughout the district and it is greatly utilized in the eastern parts of Maclear, Mount Fletcher and Ugie. A number of Sterkspruit villages are supplied from groundwater standalone schemes. **Annexure A** is a comprehensive list of groundwater schemes in the districts and the types of water sources.

The table below depicts the groundwater development and use profile in the JGDM. It is notable that yield and quality data for the various developed resources is not available.

Table 5-3 JGDM Groundwater sources

Local Municipality	Town	Number of boreholes or protected springs		Total yield
		Total	Currently used	
Elundini	Maclear rural	36	36	-
	Mt Fletcher rural	33	33	-
	Ugie rural	16	16	-
Senqu	Barkly East	8	8	-
	Lady Grey	9	9	-
	Rossouw	2	1	-
	Sterkspruit rural	52	52	-
Walter Sisulu - East	Aliwal North	6	6	-
	Jamestown	12	12	-
Walter Sisulu - West	Burgersdorp	14	6	-
	Steynsburg	9	9	-

It is notable that yields and quality data for the various developed resources is not available. As part of its Groundwater Management Plan, the district needs to undertake a study to determine and catalogue the safe yields of all boreholes in its jurisdictional area to inform its sustainable usage and management.

National Government gazetted new guidelines for all boreholes and well points, effective from 12 January 2018 (*Government Gazette No. 412381 Volume 631)* and it stipulates that:

- Borehole/well point water must be metered and all users are required to keep records and have them available for inspection; and
- Permission from the national Department of Water and Sanitation to sell or buy borehole/well point water.

Groundwater (like all alternative water) may not be generally used for drinking, cooking or body washing according the Water and Sanitation Services By-laws (2015). However, with some treatment (boiling or a teaspoon of bleach per 20litres) it can be used for these household uses. The use of groundwater is free and is not billed by the municipality; however, it needs to be used responsibility to prevent over-extraction, which harms the environment. The JGDM Water and Sanitation Services By-laws (2015) states that if any person/institution intends to sink a borehole or well-point on their property they will need to apply to the municipality before they

install it. Once installed, the customer will need to register the borehole or well-point in order to enable the municipality to conduct environmental monitoring and research. A customer that already has a borehole or well-point on their property must register or renew the registration at the municipality.

5.3 JGDM LONG-TERM WATER SECURITY

Long term water security is one of the key responsibilities of the Water Services Authority. The appropriate development and utilization of the water resources to the benefit of the district municipality and its key stakeholders is an important aspect that flows from this responsibility.

Until recently, the options for water development largely focused on the development of surface water resources and the protection of groundwater resources. The development of large dams is a long-term exercise as the process takes in excess of 10 years from planning to sod-turning or completion. It is also highly capital intensive, thus these developments are driven by aspects such as sustainability and risk mitigation for the long term. The development timeframes are too long for the immediate concern of water services backlog eradication. In some instances smaller dams and run-of-river abstractions are more likely to make an immediate impact. In this instant, JGDM will take on a more active role in lobbying and participating in the Department of Water and Sanitation's resource development forums in the future especially in the three river catchments. Key projects that have an impact on the JGDM are discussed hereunder.
Through a number of municipal and/or externally funded initiatives, JGDM has conducted a number of area specific long-term water resources planning studies in line with the DWS' Town Reconciliation Strategies. Below is a list of municipal long-term water resources development projects that will enhance the raw water availability and storage capacity upon completion:

Table 5-4 Current and upcoming municipal augmentation schemes

Local Municipality	Town	Proposed or current development	Yield/Capacity	Funding avenue
Walter Sisulu	Burgersdorp	Chiappinisklip Dam 2	270 Ml	Provincial Treasury
Senqu	Lady Grey	Zachtevlei Dam	0.812 million m3/a	RBIG (DWS)

The construction of the Chiappinisklip Dam 2 was completed under the EC Provincial Treasury Drought Relief Programme. However, the connection of the dam to the abstraction point in the Stormbergspruit River has been completed but it is not operational thus the municipality to

endeavour to commission it before the summer rainfall period in order to increase the raw water storage capacity of the Burgersdorp water supply system.

The Zachtevlei Dam and associated bulk distribution project has been identified as the optimum long- term water supply augmentation option for the town Lady Grey. The technical and environmental viability of the dam has been finalized and it has been approved by the Department of Water and Sanitation for funding and construction. However, even though a total of R75million has been allocated to the development of the dam in Lady Grey over the MTEF, the Implementation Readiness Study has not been approved by the department for implementation.

Other notable project(s) that are planned and/or currently underway which will impact (positively or negatively) on the JGDM water are discussed hereunder:

- *Mzimvubu Water Project* which entails the development a multipurpose dam (Ntabelanga Dam) to supply new water capacity for irrigation development, domestic and industrial water requirements, and hydropower usage in the Mzimvubu River catchment. According to the feasibility of the project, the majority communities that will be benefitting from the domestic water supply portion of the development are from the OR Tambo and the Alfred Nzo District Municipalities. This is further underlined by the fact that no major towns in JGDM are included instead the development will benefit a number of rural villages in the Elundini LM.
- The construction of two *off-channel holding dams* in Aliwal North have been approved and funded for implementation in the 2022/23 financial year and is currently in the procurement stage.
- The *Island Spa Dam and springs* also provide an option for the long-term raw water supply to the town of Aliwal North. The water quality of the availability has been identified as a challenge but the resource has been developed and connected to the Aliwal North water treatment works to supplement water supply to the town during the high water demand periods.

The Orange-Kraai Catchment Management Forum has been established and allows the municipality to inform the decision making for the recently planned and bigger Orange-Vaal Catchment Management Agency.

5.4 TREATED EFFLUENT RE-USE

JGDM promotes/encourages the use of treated effluent (recycled water) for irrigation, construction or industrial purposes as a way of to conserve the district's limited water supply sources and also facilitate local economic development. Treated effluent or recycled water, is wastewater that has been treated at a wastewater treatment works and distributed to different consumers via a separate network of pipes. The use of treated effluent is cheaper than using drinking water.

Treated effluent can be used large in industries, sports fields, golf courses, large new developments, crop irrigation and schools. However, the use of treated effluent is dependent on the location of the facility and other factors, such as expected consumption regulated by the Department of Health and DWS.

At the moment the municipality has five (5) wastewater treatment facilities wherein the reuse of treated effluent is being practiced:

1. *Crop irrigation in Aliwal North*
2. *Grazing land, crop and golf course irrigation in Barkly East;*
3. *Grazing land irrigation in Sterkspruit.*
4. *Recreational park, school sports-field and golf course irrigation in Burgersdorp; and*
5. *Crop irrigation in Lady Grey.*

However, the municipality cannot guarantee an interrupted supply of treated effluent and the acceptable quality thereof. The use of treated effluent is legislated under the following legislated prescripts:

- Department of Health's South African Guidelines for the Permissible Re-Use of Treated Sewage Effluents of 1978 which is under review by the Water Research Commission to ensure its relevance and to facilitate extensive use of the resource; and
- Department of Water and Sanitation's National Water Act (Act 36 of 1998): Revision of General Authorizations in terms of Section 39 of the Act [*Schedule 1: Engaging in a controlled activity, identified as such in section 37(1)(a): Irrigation of any land with waste or water containing waste generated through any industrial activity or by a waterwork]*

Both these pieces of legislation outline the roles and responsibilities of both the municipality and users of the treated effluent for irrigation. These include but not limited to:

- Location of irrigation in relation to flood line or riparian habitat;
- Construction, maintenance and operational practices of the wastewater irrigation systems;
- Precautionary OHS measures;
- Monitoring programme for water quantity and quality;
- Inspections;
- Incidence reporting; and
- Other issues.

The municipality will need to finalize and enforce the formal agreements with the all applicable individual/ and/or institution(s) that utilize the treated effluent from its wastewater treatment facilities are in place as there are unintended public and environmental impacts from the misguided usage of such a resource.
The use of treated effluent has the potential to facilitate local economic development initiatives by the four municipalities and private organizations or individuals in the region.

5.5 DROUGHT IMPACTS

A drought is a shortage of precipitation over an extended period and it entails deficient rainfall relative to the statistical multi-year average for a region. Drought is not merely low rainfall, but a relative concept based on the expected, or average, rainfall of an area, whether desert of tropical, for any given time of year. There are four different types of drought

1) **Meteorological Drought occurs** happens when areas receive less precipitation than typical for that specific region.
2) **Agricultural Drought** occurs when various characteristics of meteorological (or hydrological) drought do not supply enough water to supply all the stages of crop development
3) **Hydrological Drought** refers to shortages of water resources, occurs when extended precipitation shortfalls impact the water supply. Because regions are connected through a series of hydrologic systems, the impact of a meteorological drought can expand further the borders of the precipitation-deficient area when for example; groundwater, reservoir, or

stream levels are significantly reduced. Conditions for hydrologic drought are built over extended periods of time

4) **Socio-economic Drought** occurs when the clean water supply does not meet the demand. The demand of economic goods may increase because of population growth, improved production efficiency, technology or the increase of surface water storage capacity.

Drought is a slow onset hazard, as defined above it is observed after a long time, in most cases, the first three types of droughts, namely the meteorological, hydrological and agriculture drought are the ones experienced first and the socio economic drought is mostly felt as an impact of the first three.

It takes time to go through the cycle of drought, in most cases it is a cycles of 5 to 7 years. It is also common to observe that within the drought cycles that are years that are drier than others.

Drought is classified as the **primary hazard** which leads normally leads to **secondary hazards** of which one of them is veld fires, it becomes a complex emergency for emergency services as they are require water to fight the veld fires while there is water shortage. The drought is normally broken by a flood which also leads to other hazards like soil erosion, mud slides, equally dangerous like other hazards.

Joe Gqabi District Municipality is currently affected by low rainfall conditions on the western parts of the district and the most affected areas are Burgersdorp and Lady Grey.

The District Municipality conducted a municipal disaster risk assessment study for the municipality. The study indicated that the entire district is prone to drought however the extent and severity varies from one local municipal area to another.

Table 5-5 JGDM Drought Risk Assessment

Hazard Name	Areas affected	Impact	Seasonal calendar
Drought	The entire municipaltiy is prone to drought, especially those depending on	• Increase in Inflation (food prices) • Reduction of raw water use for domestic and agricultural use , new housing developments and industrial operations • Grazing grass is reduced significantly • Over stretched municipal resources to provide basic services and delay in the implementation of current projects (water carting, drilling of boreholes and purchase of Jojo tanks, over time and S&T and operational cost)	Over long period

	subsistance farming.	• Increased in the runaway veld fires • Implementation of water restrictions and rationing • Loss of employment (farmers) • Increase government social safety nets (indigent register and provision of food parcel) • Increased insurance for commercial farmers • Farmers having abandon farming and others commit suicide • Increased running costs of farming • Frequent blockages of sewer systems • Unplanned reduction of livestock • Negatively affects family livelihoods	

The District has a number of initiatives to ensure the optimal functioning of and adequate flows to the natural water resource. The DWS' Working for Water Programme has been active in a number of areas of the District. One of the goals of this programme is to reduce the number of invasive "alien" species of vegetation (i.e. wattle) that excessively consume groundwater resources.

5.6 CLIMATE CHANGE

According to the South African Weather Services (SAWS), the Joe Gqabi District Municipality will be general a drier than normal period for March through to July affected by the inland Lesotho and Lesotho climate in the western parts, and by the coastal conditions in the east of the district.

The weather conditions are fluctuating as compared to the norm with below and above normal rainfall conditions interchanging with periods of below and above normal overnight conditions. Some of these fluctuations are attributed to the global climate change leading to weather extremes and subsequent occurrences of water-related disasters (droughts and floods).

These climatic changes have a great impact on the quantity and quality of the raw water availability in the rivers, streams and dams within the district. For example, the high rainfall and flash floods in the upper reaches of the Orange River contribute to the siltation in the proximity of the Aliwal North abstraction point resulting in the blocking of the infrastructure and high turbidity.

The municipality will have to continually adapt its management of water in accordance to the conditions and volume of water availability. Therefore, the district will implement various interventions to ensure the sustainability of water supply to its consumer base, including:

- Implementation of water restrictions where applicable;
- Water enhancement initiatives; and
- Consumer awareness.

The development of a long-term Climate Change Response Plan has been undertaken by the National Department of Environmental Affairs in collaboration with SALGA in order to ensure that the district proactively plans and implements measures that will prevent and/or mitigate the effects of water extremes to water services delivery. The council approval and resourcing of the strategy are required in order to facilitate the implementation improve the municipal preparedness and response to climate change consequences in terms of water services delivery.

Climate change response plans

The National Department of Environmental Affairs (DEA) in partnership with GIZ is embarking on the Local Government Support Program (LGCCSP). The LGCCSP is mainly focusing on mainstreaming Climate Change into municipal planning processes. The main purpose of the support offered through this program will be to build capacity and work with municipalities in developing specific Climate Change Response Strategies.
DEA has appointed a service provider to facilitate the development of such municipal strategies, and the programme has been running from 2017 up to mid 2018. The LGCCSP will take place over five phases as follows:

- The first two phases are aimed at building capacity within municipalities through conducting workshops, training and knowledge exchange sessions; and
- This will be followed by three phases focusing on development of the climate change strategies, funding of programs and ensuring integration of climate change into municipal planning (IDP).

As part of this process, two workshops have been held with the district to go through the process of conducting a climate change vulnerability assessment. The workshop aims to provide the necessary tools, build capacity and provide support to key climate change

champions in the Joe Gqabi District Municipality to begin to conduct a climate change vulnerability assessment. The three local municipalities have been part of the workshops as they do have functions which impact on local climate and on the district's water services provision responsibilities.

5.7 WATER RESOURCES CHALLENGES AND RISKS

- Dam siltation in a number of dams including the Lady Grey, Witfontein, JL De Bruin, David Aucamp, Maclear Dams and the Mt Fletcher weir;
- Seasonal drought conditions which result in dams running empty thus threatening water security and local economic development;
- A number of municipal General Authorizations and Water Use License Authorization have expired which deems the water use abstractions unlawful; and
- Most groundwater resources do not have sufficient information on pumping regimes and yields especially in the Senqu and Walter Sisulu Municipal areas. Groundwater potential and management is not well documented;

5.8 WATER RESOURCES OBJECTIVES AND STRATEGIES

- Desilting of critical dams;
- Implement Working for Water Programme in other areas affected by silting dams;
- Consolidate the number and status of boreholes that are utilized for water supply;
- Monitoring of raw water quality at least annually (surface and groundwater);
- Develop and implement Drought Plan in line with the Climate Change Adaption/Response Plan;
- Bulk metering of strategic water abstraction points;
- Investigate the possible utilization of treated effluent water reuse for those uses that do not require potable water and in turn reduce raw water abstraction and improve the reserves of the district.
- Ensure that all the contracts of mandate for the use of treated effluent are signed;
- Participate in the Catchment Management Forum discussions of the Orange River and Elundini to inform water resources planning and development; and
- Review the expired and apply for "new" General Authorizations and Water Use License Authorization from DWS to assist the municipality comprehend its water usage – the Water Use License Applications for the Aliwal North and Burgersdorp wastewater treatment works have been submitted to the Department of Water and Sanitation.

SECTION 6: WATER SERVICES INFRASTRUCTURE/MANAGEMENT

The water services infrastructure in Joe Gqabi District Municipality broadly consists of a number of regional schemes and a large number of relatively small 'standalone' supplies in the more remote rural areas of Elundini and Senqu Local Municipalities.

Municipal water supply and wastewater management infrastructure consists of various pieces of infrastructure namely dams, pump-stations, reservoirs, pipelines, water treatment works and wastewater treatment works. In Joe Gqabi District Municipality, the Water Services Provision section is responsible for the operation and maintenance of the entire water and sewer infrastructure.

JGDM has water and sanitation infrastructure and networks which is old in the main urban centres while the newer townships and peri-urban areas have newest infrastructure. There is a dedicated potable water network that services homes, industries, businesses and government institutions.

6.1 ASSET MANAGEMENT

Joe Gqabi District Municipality (JGDM) is responsible for developing, operating and maintaining extensive water and sanitation infrastructure to service residents and provide basic water to most of its population. JGDM is the designated authority for three Local Municipalities (LM), namely Elundini, Senqu and Walter Sisulu LMs.

Asset management is a legislative requirement as set out in the Municipal Finance Management Act [Section 96(1) (2a)] wherein the accounting officer is expected to put in place the *necessary measures to ensure asset management including the safeguarding and maintenance of those assets*. The Occupational Health and Safety Act also requires of an employer to ensure the safety of workers and the public when they interact with certain assets that have implicit risks to safety and health.

Broadly, assets are physical or corporeal objects and also intangible things. In so far as the scope of municipal assets and water services in particular is concerned, the following definition of assets and management thereof is most appropriate:

> ***"Infrastructure Asset Management is an integrated process of decision-making, planning and control over the acquisition, use, safeguarding and disposal of assets to maximise their service delivery potential and benefits, and to minimise their related risks and costs over their entire life."***

A lifecycle view is therefore very important in viewing infrastructure asset management, with the intention of extracting as much useful life from assets as possible without negative environmental or other impacts.

National Treasury has taken cognisance of engineering assets and the acquisition of these assets will now be covered under more specific procurement guidelines as opposed to the past practice of these assets being acquired under generic guidelines and prescripts. The documents released recently are the following:

- National Treasury Standard for Infrastructure Procurement and Delivery Management
- Annexure A: Model SCM Policy for Infrastructure Procurement and Delivery Management, Circular no. 77
- Annexure B: Standard for Infrastructure Procurement and Delivery Management

The impact of this on the effectiveness of infrastructure procurement or delivery needs to be ascertained. These documents have the following take on infrastructure delivery:

> ***"the combination of all planning, technical, administrative and managerial actions associated with the construction, supply, renovation, rehabilitation, alteration, maintenance, operation or disposal of infrastructure."***

The physical extent, social support and economic value creation and support function played by the water and sanitation infrastructure base requires that a very strong asset management approach and system be applied to ensure the continuation of the positive benefits that the infrastructure provides.

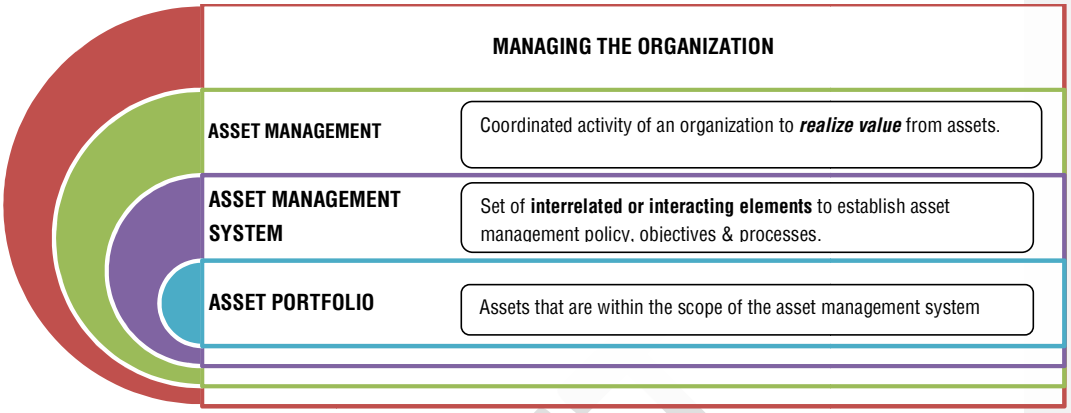

Figure 6-1 Asset Management and Asset Management System (ISO 5001)

6.1.1 Status of JGDM water services infrastructure

Existing infrastructure has a finite life span and it is essential that it is maintained, upgraded and replaced within the relevant time frames to ensure the sustainability of the district's water and sanitation services.

JGDM has appointed a service provider for the annual review and updating of the municipal infrastructure asset register as required by law and the Generally . . . . Acceptable Accounting Practices (GRAAP) principles.

Comment [HC1]: GRAAP

6.1.2 Value of the water and sanitation networks

The costs used in the calculations and reflected in the results for this section are based on the Current Replacement Cost (CRC). This total can be defined as the cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset. This cost includes the full cost of installation, contractor's costs, design, and construction supervision. These unit costs are based on JGDM infrastructure asset register's unit rates used during cost estimation. The unit costs determined by this method are not and cannot be accurate, but are reasonable estimates.

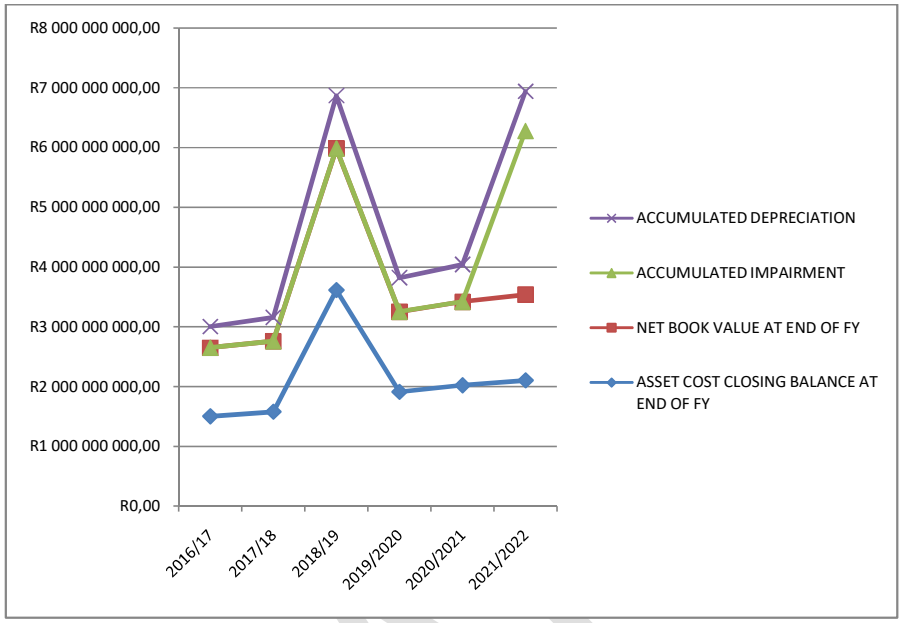

Figure 6-2 JGDM Total Water and Sanitation Asset Value (2016/17 – 2021/2022)

Comment [HC2]: Update figures

According to the Joe Gqabi District Municipality's Infrastructure 2016/17 Asset Register, the current book value of the JGDM water and sanitation supply network is R 1.436 billion as at 30 June 2022. The asset base is increasing, reflective of the annual investments that the DM is undertaking to eradicate backlogs and renewals. The growth rate is tempered by the deduction of depreciation on an annual basis.

	2016/17	2017/18	2018/19	2019/2020	2020/2021	2021/2022
Asset Cost Closing Balance At End of FY	R1 501 832 628,02	R1 577 379 030,31	R3 614 446 357,95	R1 910 136 157,69	R2 021 300 133,00	R2 102 330 001,00
Net Book Value At End of FY	R1 149 231 633,80	R1 180 654 173,81	R2 368 124 202,50	R1 342 080 102,77	R1 396 664 589,00	R1 436 636 208,00
Accumulated Impairment	R0,00	R0,00	R0,00	R441 181,75	R983 146,16	R2 734 950 909,00
Accumulated Depreciation	R352 600 994,22	R396 724 856,50	R886 346 280,84	R567 614 873,17	R623 652 397,30	R662 958 842,40
Residual Value	R0,00	R0,00	R0,00	R0,00	R0,00	R0,00

The infrastructure depreciation of over R300million is a sign that the municipality is not paying attention and investing adequate funds towards the operations and maintenance of existing

infrastructure that will enable the renewal and upgrade thereof. Therefore the current municipal infrastructure is deteriorating in such a manner that that it negatively affects the provision of water supply and sanitation services to its population.

As a result of municipalities utlize its water services infrastructure assets for its entire economic life, the *residual value* may be negligible or even zero.

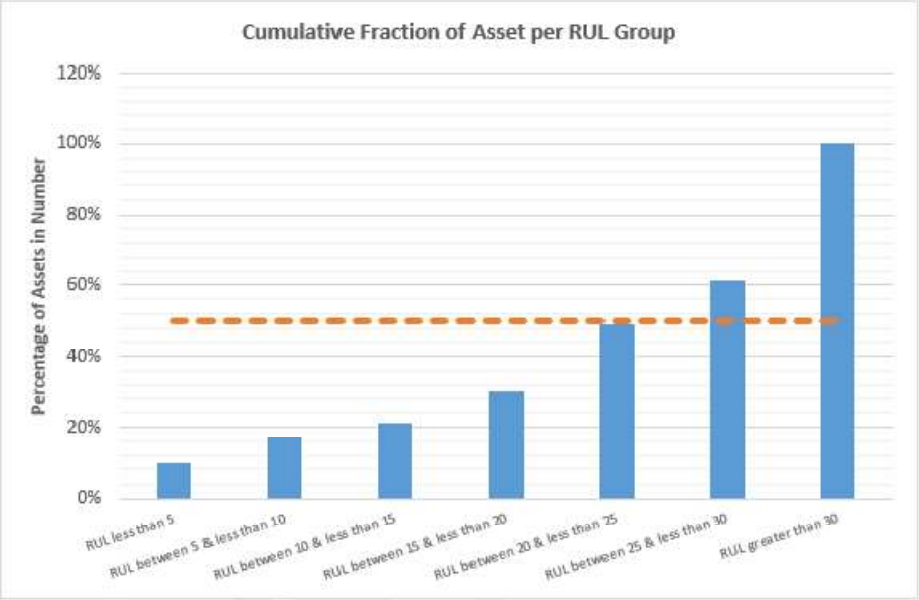

Figure 6-3 JGDM Asset Component Number with different RUL Groups

Comment [HC3]: Updated figure

The chart above shows a breakdown of the assets into ranges of Remaining Useful Life (RUL). It is clear in the graph that the asset base of the DM is relatively new, with assets of an RUL of more than 30 years predominating. There may be some older assets that have long remaining useful lives. The older assets will be in the towns predominantly. It is important the DM undertakes a determination of the Replacement Value (RV) of these assets as this will have to be reflected in a renewal/refurbishment capital programme. The asset register reflects the book value of these assets.

The Deemed Replacement Cost (value) of the municipal water and sanitation supply network is R15.226 billion as at 30 June 2017. The municipality needs to prioritize and avail adequate maintenance budget of some of the *strategic water and sanitation infrastructure* due to their

significant impact on service delivery and economic growth. The municipal strategic infrastructure assets include the following:

Comment [HC4]: Update

- Water treatment works;
- Bulk water storage and reticulation; and
- Wastewater treatment works.

The water supply and wastewater management infrastructure also entails networks of complex configurations of multiple assets spread over geographically significant areas. These networks are very dynamic in that networks are extended, upgraded, they age and require renewal, complete replacement, and are reconfigured over time. Therefore, all measurable variables of an infrastructure network constantly change: extent, age, value, capacity, condition and cost of operation being some of these variables.

The useful life of a municipal infrastructure asset is defined in terms of the asset's expected utility to the entity and may be shorter than its economic life. However, when the municipality intends using an asset for its entire life, the useful life and economic life are the same. The estimation of the useful life of an asset is a matter of judgement based on the experience of an entity with similar assets.

The municipality needs to consider all the facts and circumstances in estimating the useful lives of assets, which could include technical, financial and other information.

6.2 WATER SERVICES OPERATIONS

The operational water services provision structuring of the district is in according to local municipal boundaries with each region administered by a Water Manager that directly report to the Manager: Water Services Provision.

All the region-specific Water Managers are responsible for the operations and maintenance of both water supply and sewer infrastructure includes the works and distribution network. The regional schemes are structured as follows:

- Elundini Urban (Maclear, Mt Fletcher and Ugie urban & peri-urban centres);
- Elundini Rural (villages in Maclear, Mt Fletcher and Ugie);
- Gariep (Burgersdorp, Oviston, Steynsburg and Venterstad);
- Maletswai (Aliwal North and Jamestown);
- Senqu East (Barkly East, Lady Grey, Rhodes and Rossouw); and
- Senqu West (Sterkspruit and Herschel urban and rural).

6.3 WATER SUPPLY INFRASTRUCTURE

The district has a total of 14 water treatment facilities that service communities residing within urban centres and a number of rural households of the three local municipal areas. These WTWs are complimented by a number stand-alone water supply schemes that employ groundwater sources to ensure water supply to the communities residing in the rural settlements of the district.

The stand alone schemes are characterized by diesel powered pump-stations and managed by district personnel that reside within their respective villages. Most of these pump-stations and generators are quite old and susceptible to frequent breakdown resulting in intermittent water supply to the respective communities. The municipality must consider an effective diesel management process that will ensure improved supply of delivery and reduce potential theft thereof.

The long term solution would be to change to electricity-powered pump-stations which would require the replacement of old pump-stations but also to improve operations and effective water supply service delivery.

Table 6-1 WTW capacities and future water demands

Town	Service Area	Current capacity kl/day	Short Term kl/day	Long Term kl/day	Remarks
Aliwal North (Maletswai)	Abborview, Dukathole, Hilton, Area 13, Joe Gqabi, Springs, Aliwal North	14 700	12 256	14 703	High Silt content - Holding Dams Required
James Calata	Jamestown, Masakhane	1 000	1 021	966	Good Condition
Burgersdorp	Burgersdorp, Eureka, Harmonie, Mzamomhle & Thembisa	4 700	5 060	8 571	Urgent Attention Needed
Oviston/Venterstad	Oviston, Venterstad	2 600	2 839	3 354	Good Condition - Minor work needed
Steynsburg	Steynsburg, Greenfields, Khayamnandi & Westdene	2 500	1 897	3 393	Good Condition - Add 1ML/day in future
Barkly East	Town, Nkululeko Location, Boycers Nondala Location, Fairview	4 800	3 353	4 406	Upgrade currently in Progress
Lady Grey	Lady Grey, Kwezinaledi, Transwilger, informal settlements	4 800	2 526	6 140	Recently Constructed
Rossouw		None	262	488	Diesel Driven Borehole supply
Rhodes	Rhodes town & Zakhele location	500	321	664	Good Condition
Ugie	Ugie town, Phola Park, Popcorn Valley, Land Camp, Dyoki Location	6 000	4 398	5 798	Filters rusted, needs second clarifier
Maclear	Mcalear town, Greenfield, Vincent	1 220	2 627	4 335	Over-utilized, New 6ML WTW planned
Mt Fletcher BWS	Mt Fletcher town, Tsolobeng, Mfanta	6 700	4 017	7 159	Good Condition - Will be upgraded to 7.2 ML/day
Elundini Rural – North	Villages	6 700	9 624	14 979	New Future Works at Kinira and Luzi

					Rivers
Elundini Rural – Central	Villages	None	3 184	5 049	New Future works at Tsitsa River
Elundini Rural – South	Villages	None	881	1 327	New Future works at Umnga River
Sterkspruit BWS	Herschel, Sterkspruit & surrounding settlements	12 000	16 697	25 879	Current Works is over-utilised
Sterkspruit Rural	Villages	None	7 141	11 022	None

During the development of the 2019/2020 District-wide Integrated Water and Sanitation Master Plan, process audits of the water and wastewater treatment works were undertaken including the verification of the design and operating capacity volumes for all its water treatment facilities as this has an impact on not only the functionality and sustainability of the infrastructure but also on the effectiveness of the facilities in terms of the quality of the municipal drinking water produced.

Elundini Municipal Area Water Supply

Maclear

The town of Maclear is currently supplied with potable water from two water treatment works located to the north and a package facility south of the town.

The north located facility is the old Aucamp WTW employs a conventional water treatment system that comprises coagulation/flocculation, settling, pressure filters and disinfection. The works raw water is pumped from the Aucamp Dam and is received from the Maclear Dam via gravity whilst supplemented with water from the Mooi River weir. During the 2021/2022 municipal financial year, the plant was upgraded and the filters refurbished to improve quality of the produced municipal drinking water. All final water is gravitated to the supply areas.

Mooi River WTW package plant obtains raw water from the run-off flows of the Mooi River via a pumping system. The works are housed in containers, and the treatment process is conventional with coagulation/flocculation, settling, pressure filtration and disinfection. There is no wash-water recovery and the works have some leaks in one of the pump sumps (JoJo Type). The works are currently being upgraded from 0.67 Mℓ/d to 1.34 Mℓ/d. All the final potable water is all pumped away to the applicable communities mainly the townships adjacent to it. The location of the WTW in relation to a main sewer pumpstation is a concern as any incidents will result in threat public and environment health.

There is an ongoing MIG project in place for the replacement of the AC pipeline to improve water supply and a second project is under procurement for the construction of a new water

treatment works to remove the strain from the Aucamp WTW and decommission the Mooi River package WTW.

Mt Fletcher

The Mt Fletcher WTW was commissioned in 2011, and raw water is pumped from the Thina River at the weir. The works employs a conventional rapid gravity treatment works with a raw water holding dam, coagulation/flocculation, longitudinal settlers and rapid gravity sand filters. The final water is disinfected and mostly pumped away. The biggest concern at this stage is the throughput constraints in the flow channels from the settling plant to the filters.

The silting of the weir does threaten not only the water quality and water supply to the communities but also the integrity of the infrastructure and lifespan of the filters. The sluice gates have been repaired a couple of time over the past five years and are operational with occasional silt released down the Thina River. However, a fixed operational programme linked to the original design should be implemented and adhered to improve the operational efficiency of the facility and water supply in Mt Fletcher especially with the rapid peri-urban growth

Approximately 26 villages receive water directly from the Mt Fletcher bulk water supply scheme in Wards 9, 10, 11, 14 and 15. Refer to **Annexure B** for a detailed list of villages supplied from the Sterkspruit water supply scheme.

Furthermore, the Elundini Local Municipality is implementing a Small Town Revitalization project funded by the Office of the Premier which entails the development of a new housing development and economic development facilities in town. The project will also include the development of water supply network and two reservoirs with a combined capacity of 1.4Ml.

A privately owned shopping mall in the CBD is in the development stage and has informed the municipality of their estimated water demand and sewer load as follows:

- Water demand: 27.8kl/day
- Sewer load: 10kl/day

The district will need to consider the increased water demand in the face of the current water supply infrastructure capacity and also the operational efficiency of the water treatment works.

Ugie

The town of Ugie and surrounding peri-urban settlements are supplied by a single 6 Mℓ/d water treatment works that is situated to the south of the town and sources its water from the

Wildebeest River. The works are conventional with coagulation/flocculation, longitudinal settlers, pressure filtration and disinfection. Final water is pumped to the various supply areas.

The municipality is currently implementing a project for the relocation of the abstraction point upstream of the area next to the bridge where a hydrocarbon pollution incident occurred more almost 10years ago and posing a potential threat to the water supply of the town.

The municipality should finalize the connection of the Ugie recreational dam to the abstraction as a secondary source during times of low flows in the Wildebeest River and increased population or economic activity.

Elundini LM has confirmed that they will be constructing an Agricultural Hub which will increasing to the town's water demand and consumption together with generation of sewer.

Senqu Municipal Area Water Supply

Barkly East

The only water treatment facility in Barkly East receives its raw water via a pump station that draws from the Langkloofspruit River south of the town. The works are generally old and utilizes a conventional treatment process that includes coagulation/flocculation, longitudinal settling followed by pressure filtration. The river abstraction point and filters have recently been upgraded with larger pressure filters. Final water is disinfected before it is pumped to distribution reservoirs. There is no wash- water recovery.

A project has been completed to improve the bulk water infrastructure and a new 2ML clearwater reservoir to increase the storage capacity of the Barkly East water supply scheme in order to provide for the recently developed housing and cater for the planned housing development of 304 units north of the town.

Rhodes

The settlement of Rhodes has a single 0.5 Ml/day WTW that draws water from the Bell River via pumping. Water is also drawn from a dam upstream of the works through gravity. The works is conventional package plant type with coagulation, limited flocculation, pressure sand filtration and disinfection.

Final water is pumped to a header reservoir and another new steel reservoir from where it is fed to the supply zones via gravity. There is no backwash water recovery.

During the 2021/2022 municipal financial year, an additional 0.1Ml clearwater reservoir was installed to increase the system's storage capacity.

The extension of the WTP will largely depend on tourism growth to the area and subsidized housing developments in the municipal area.

Lady Grey

Lady Grey potable water is provided from a new 4.8 Mℓ/day works that was constructed adjacent the existing works. The WTW draws its water from two dams via gravity and the final water is also gravitated via the water supply network to a number of reservoirs. The Lady Grey Dam is silted up to the extent that the silt volume in the dam is almost 50% of the full dam volume.

Comment [HC5]: Confirm with Water Manager

A total of 14 boreholes have been developed and are operational, and are linked to two recently completed reservoirs in Transwilger and Kwezi-Naledi. Three additional reservoirs were constructed in 2018 – 2020 in order to increase the storage capacity of the town.

Comment [HC6]: Confirm the completion and capacities of the reservoirs

The unit operations are of the package format with pressure sand filters and the other processes are conventional, with the final water intended to be disinfected. There is no allowance for wash-water recovery.

The old package plant-type WTW that is located north of the town has been decommissioned and used as a storage facility.

The municipality needs to fast track the development of the Zachtevlei Dam as a primary source of the town owing to the silting Lady Grey Dam and planned housing developments. The project is in the Implementation Readiness Study phase of the Department of Water and Sanitation's Regional Bulk Infrastructure Grant funding.

Rossouw

Rossouw does not have any WTW and relies on one borehole for water supply restricted to 4 hours daily (6:00 – 10:00 in the morning). The second borehole has dried up hence water is sometimes carted from Sterkspruit and/or Barkly East as and when it is required.

An additional 0.1Ml storage capacity in the form of an SBS tanker was installed in 2022 in order to improve water supply and also remove the old jojo tanks (3x 10 000 litre) whilst the fourth was damaged by the wind.

A sustainable water source and applicable infrastructure is required considering the increased demand after a recently completed housing development project.

Sterkspruit

There are two water treatment works that are located within the Sterkspruit area. The main works is the 12 Mℓ/day Sterkspruit WTW situated west of the town next to the R392 from Herschel. The works is of conventional concrete construction with coagulation/flocculation, settling, rapid gravity filtration and disinfection. Raw water is supplied from the Jozana Dam via gravity fed pipeline. The wash-water recovery facilities have been provided but inadequate. The treated water is distributed through pumping and gravity. The main works supplies water to Sterkspruit, some surrounding villages and the settlement of Herschel as well.

Approximately 30 villages receive water from the Sterkspruit bulk water supply scheme but as a result of extensive illegal connections on the bulk water supply pipeline the area experiences extended water disruptions in the high-lying Ndofela and Macacuma Villages due to insufficient water pressure. The small settlement of Herschel and surrounding villages is also supplied from the Sterkspruit water supply scheme and a new bulk water supply pipeline is under construction due to extensive illegal connections on the existing pipeline resulting to the water not reaching the area .

Refer to **Annexure B** for a detailed list of villages supplied from the Sterkspruit bulk water supply scheme.

The 2.0 Ml/day Jozana WTW that supplies water to other rural villages within its vicinity. The works draws water via gravity from the Jozanashoek Dam. The works are conventional package type with pressure filtration, and the treatment processes entail coagulation/flocculation, settling, pressure filtration, disinfection and distribution via pumping. There is no wash-water recovery.

There are a number of diesel powered stand-alone water supply schemes that utilize groundwater water sources to provide potable water to some of the villages. These can be connected to ESKOM electricity grid in order for effective and efficient water supply and reduce operational costs as diesel and the maintenance of the diesel-powered pump-station infrastructure is expensive.

Walter Sisulu Municipal Area Water Supply

Gariep

The Burgersdorp WTW is the only facility that provides municipal drinking water to the CBD, Harmonie, Eureka, Mzamomhle and Thembisa Townships. The works is old with conventional processes that comprise coagulation/flocculation, settling, rapid gravity sand filtration and

disinfection. In 2021/2022 municipal financial year, the WTW was refurbished and the work entailed the upgrading of the filters.

All raw water is received via pumping from the JL De Bruin Dam and from the new raw water sump linked to the five boreholes that have been developed during 2021/2022. The Chiappinisklip Dam 1 wall was breached in 2020 and the repairs have not been completed but water is available on the facility. However, the Burgersdorp water treatment system is strained by a high loading of silt and does not have wash-water recovery. The final drinking water is gravitated to the storage reservoirs including a new 6Ml reservoir was constructed adjacent to the works to increase the drinking water storage capacity of the town to 48hours.

The breaking of the Chiappinisklip Dam 1 wall in 2020 has compromised the water availability and hence the conjunctive use of surface and groundwater.

The connection from the Chiappinisklip Dam 2 was completed in 2021/2022 financial year by the municipality's operational team in order to ensure the pumping of water from the Stormbergspruit River for storage in the dam and improve the water availability of the town.

Steynsburg

Steynsburg has one WTW that receives water from the DWS Orange-Fish Teebus transfer tunnel. It is relatively new and of an all concrete construction with punk processes are conventional with coagulation/flocculation, settling, rapid gravity sand filtration and disinfection. Final water is distributed via gravity. There is a wash-water recovery section. The works are in a good state.

A number of boreholes and a reservoir have been developed to increase water availability and increase storage. However, due to shortcomings to the infrastructure the boreholes are used in conjunction with the water from the Orange-Fish Transfer Tunnel. The municipal-owned pump station located adjacent the tunnel is in unsatisfactory state and requires refurbishment to ensure the protection of the mechanical and electrical equipment.

Additional boreholes and a reservoir have been developed through the EC Provincial Treasury's Drought Relief Programme to increase the town's raw water availability.

Venterstad and Oviston

The small towns of Venterstad and Oviston are supplied from the 2.6Ml/day WTW situated in Oviston and the plant receives water from the DWS-owned Gariep Dam. The works are of brick/concrete construction with a balancing dam, coagulation/flocculation, rapid gravity sand

filtration and disinfection. Final water is distributed via gravity and pumping. There is no wash-water recovery.

The works has recently been refurbished and upgraded but they will need to be expanded to accommodate the planned housing developments in Venterstad.

There is a planned project for the replacement of the old bulk water supply pipeline from Oviston to Venterstad to improve clear-water distribution efficiency.

Maletswai area

The Maletswai municipal area is made up of two towns, namely Aliwal North and James Calata (formerly Jamestown). The two towns employ conjunctive surface and groundwater sources for the provision of potable water to their respective areas.

Aliwal North

Aliwal North has a single conventional water treatment facility that comprises a balancing dam, coagulation/flocculation, settling, rapid gravity filtration and disinfection. Raw water is mostly supplied via pumping from the international Orange River that forms a boundary with the Free State province and the groundwater from the Island Spa Dam that has been linked to the water treatment works. The works are old, and needs to be prioritised for renewal/upgrading. However, all of the 12 filters have been refurbished which will improve the operational efficiency of the water treatment works.

Final water is distributed via pumping to all the settlements within Aliwal North. There is no wash-water recovery. Low levels and extensive silting of the Orange River has resulted in water supply disruptions due to the municipal abstraction infrastructure being overwhelmed and blocked. A second water abstraction system has been constructed upstream of the weir to get around the extensive silting of the Orange River and also improve abstraction during periods of low flows.

Additional clear water storage reservoirs have been installed in Dukathole Extension 13 and Joe Gqabi with an additional reservoir designated for Abborview. These reservoirs will improve the operations of the Aliwal North water supply system and help to improve its operations.

Jamestown

Jamestown has a package-type water treatment works with coagulation/flocculation, settling, pressure sand filtration and disinfection. Raw water is all pumped to the works from the Skulkspruit Off-take Dam which is fed from the perennial Skulkspruit River. Some of the sand

filters have been recently refurbished but the plant still does not have wash-water recovery facility. The final water is pumped away for distribution.

Jamestown has a total of 13 boreholes that are mainly used during periods of low levels in the dam.

6.4 WASTEWATER INFRASTRUCTURE

The JGDM has a total of 16 wastewater treatment works with the closure and decommissioning of the Maclear ponds. The WWTW facilities employ a combination of the more advanced activated sludge and oxidation pond technology, and these have been visually assessed by the WSA for compliance monitoring and reporting. Below is a table with all the municipal WWTWs:

Table 6-3 JGDM WWTWs capacities and future loads

Town	Current capacity kl/day	Short Term kl/day	Long Term kl/day	Effluent Reuse	Remarks
Aliwal North (Maletswai)	9 000	6 655	10 821	Yes	Poor state of Maintenance
James Calata	750	762	721		Ponds in good Condition
Burgersdorp	2 500	2 508	4 270	Yes	Recently upgraded in 2021/22
Oviston	200	239	339		Good Condition - Minor Refurbishment needed
Venterstad	1 000	951	1 077		Fair Condition - Refurbishment needed
Steynsburg	1 665	1 665	2 975		Good Condition
Barkly East (2x ponds)	1 300	2 235	3 249	Yes	Over-utilised
Lady Grey	2 000	1 707	4 151	Yes	New Works Required in future
Rossouw	None	204	380		VIP's in place
Rhodes	None	200	200		VIP Currently - To be replaced with waterborne in future
Ugie	600	2 598	2 598		New WWTW required in future
Maclear	1 400	1 188	2 022		Newly Upgraded
Mt Fletcher BWS	500	1 841	4 412		New 4.7 ML/day planned
Sterkspruit Town Area	1 500	4 000	7 400		New Waste Water Treatment Works planned - RBIG
Elundini Rural					VIP's in place - Units outstanding 7355
Sterkspruit Rural					VIP's in place - Units outstanding 7830

Table 6-2 Type and capacity of JGDM WWTWs

LM	AREA NAME	SERVICE AREA	NAME OF WWTW	CAPACITY (Ml/d)		IRRIGATION
				DESIGN	OPERATING	
Elundini	Maclear	Maclear town, Greenfield, Vincent	1. Maclear Activated sludge	1.4		None
			2. Maclear Ponds	0.5 (0.7)		None
	Mt Fletcher	Mt Fletcher town, Tsolobeng, Mfanta	3. Mt Fletcher Ponds	0.5		None
	Ugie	Ugie town	4. Ugie Ponds	0.7 (0.5)		None
			5. Prentjiesberg	0.594		None
Senqu	Barkly East	Town, Nkululeko Location, Fairview.	6. Barkly East Old Ponds	1.3		None
			7. Barkly East New Ponds	0.6 (1.3		Yes
	Herschel	Herschel,	8. Herschel Activated Sludge Ponds	0.7 (2.0)		None
	Lady Grey	Lady Grey, Kwexi Naledi & Transwilger	9. Lady Grey Ponds	2.0 (1.84)		Yes
	Sterkspruit	Sterkspruit & surrounding settlements	10. Sterkspruit Ponds	2.0		None
			11. Sterkspruit Package Plant	0.35		None
Walter Sisulu: Gariep	Burgersdorp	Burgersdorp, Eureka, Harmonie, Mzamomhle & Thembisa	12. Burgersdorp Activated Sludge WWTWs	2.5		None
	Oviston	Oviston, Venterstad	13. Oviston Activated Sludge WWTWs	0.2		None
	Steynsburg	Steynsburg, Greenfields, Khayamnandi & Westdene	14. Steynsburg Activated Sludge WWTW	1		None
	Venterstad	Venterstad, Nozizwe, Lyciumville	15. Venterstad Activated Sludge WWTW	1		None
Walter Sisulu: Maletswai	Aliwal North	Abborview, Dukathole, Hilton, Area 13, Springs, Aliwal North, Joe Gqabi	16. Aliwal North Activated Sludge WWTWs	5.5		Yes
	Jamestown	Jamestown, Masakhane	17. Jamestown Ponds	0.75		None

Rhodes and Rossouw do not have wastewater treatment works as their communities are served with VIP toilets and/or septic/ conservancy tanks.

The municipality will need to determine the current operating capacity volumes for all its wastewater treatment facilities as this has an impact on not only the functionality and sustainability of the infrastructure but also on the effectiveness of the facilities in terms of the quality of the final effluent discharged into the environment.
The detailed information on the status of the JGDM wastewater infrastructure and some of the contributing factors to the indicated conditions thereof is discussed below.

Elundini Municipal area

Maclear

Maclear has two wastewater treatment facilities. The older pond-based WWTW is located north of the town and is meant to act as an evaporation pond. However, the effluent does however breach the pond walls. The works are scheduled to be decommissioned in the future and the sewage currently received will be redirected to the currently upgraded-Maclear activated WWTW. The access road to this plant is problematic especially during rainy periods and needs to be improved.

The Maclear activated-sludge WWTW is situated on the south of the Maclear along the R396 road. The works consists of an inlet works with screening and de-gritting, an extended aeration basin with anoxic zones. The final effluent is disinfected before being released to the Mooi River. The works are currently undergoing an upgrade, where the capacity is being increased from the current 700kℓ/day to 1.4 Mℓ/day. Both works are well-fenced with controllable access.
In the 2022/2021 financial year onwards, the district has been implementing the bulk sanitation project that involves the current WWTW upgrade and construction of sewer network in a number of the settlements that are using septic tanks and VIP toilets.

Mt Fletcher

Mt Fletcher has one 0.5Ml/day oxidation technology WWTW which is designed to operate as an evaporation facility. The works receives septic and conservancy tanks effluent from households and businesses via a honey sucker tanker. The WWTW can receive waterborne effluent. The inlet works, however has not been designed to receive regular waterborne effluent as there are no screening and de-gritting facilities. Final effluent is not formally disinfected, but more on an informal basis. The pond walls are breaching and effluent informally leaves the works into the environment. The works are fenced and access is controlled. The works do not have a formal final effluent discharge point.

The Elundini Local Municipality is implementing a Small Town Revitalization project funded by the Office of the Premier which entails the development of a new housing development and economic development facilities in town. The expansion of the wastewater treatment works and sewer reticulation has been included in the project as the development will include a higher level of sanitation service to the town and planned township.

North of the district's WWTWs there is Department of Public Works-owned oxidation ponds facility that services the hospital, correctional centre and police station. The final effluent of this facility is linked to the JGDM WWTWs.

Ugie

Ugie town and surrounding areas are serviced two wastewater treatment works, the Ugie Ponds WWTW located to the east and the Prentjiesberg WWTW to the south of town.

The 0.7 Mℓ/day capacity Ugie Ponds WWTW uses oxidation pond technology and accepts tankered effluent only. It is planned that the works will be phased out and sewage will be redirected to the Prentjiesberg WWTW. The works are well fenced but the access road to this WWTW needs serious improvement as it is not easily negotiable, even by vacuum tankers during wet season.

The Prentjiesberg WWTW uses an activated sludge treatment system and the core of the plant is a steel structure wherein all the key processes, namely secondary treatment (aeration) and settling are undertaken. Final effluent is disinfected before it is released to the Wildebeest River. A large number of households use VIP toilets, septic and conservancy tanks at present. JGDM owned and private honey-sucker trucks are utilized for the collection and transportation of the sewage to the WWTWs. The capacity of the works is expected to increase once a reticulation system is installed.

The critical sewer challenges are the overflowing communal septic tanks which are linked to 4-5 households, the high water table in the town and a number of septic/conservancy tanks that are located within a wetland.

Senqu Municipal Area

Barkly East

Barkly East has a two-pond based wastewater treatment facilities. The older Barkly Ponds have a capacity of 0.73 Mℓ/day and it situated towards the east of the town. These works consist of an inlet works, allowance for the accommodation of buckets, an anaerobic pond, oxidation ponds and maturation ponds. The works does not have a disinfection unit. There is evidence of

pond breach and high operating levels. These works need some refurbishment/upgrading and/or operational changes. The effluent treated here emanates from the newer works. A process audit would point out any limiting components in the current process set-up.

The second works in Barkly East is situated to the north of the town. The works is referred to as the Barkly New Ponds WWTW, with a treatment capacity of 0.6 Mℓ/day. These works have been designed to irrigate all the effluent on adjacent land. The irrigation system has failed and the pond walls have breached, with effluent being discharged directly to the Langkloofspruit. The works has been connected Eskom electricity supply grid and this can resolve the irrigation problems. Measures need to be installed to deal with irrigation failure to ensure that pollution of the Langkloofspruit does not occur.

Lady Grey

Lady Grey uses classical pond treatment to dispose of wastewater. The plant situated to the west of the town and consists of an inlet works and final effluent that is discharged into the Wilgespruit River. There is disinfection with chlorine (HTH).

The site is adequately remote from the town and access is controlled. There is limited re-use of the treated sewage effluent for irrigation of animal harvest.

Rhodes

Rhodes town does not have any WWTW and most households use septic tanks. Septic tank effluent, however, still needs to be disposed of safely and a form of formal treatment facility may still be required.

The households in the township have VIP toilets which when full will need to be emptied and the "faecal sludge" disposed off in an authorized solid waste treatment facility. The district will need to consider the long term and sustainable process for the emptying of the VIP toilets and the appropriate disposal of the waste.

Rossouw

The settlement of Rossouw does not have a wastewater treatment facility as all the households are served with VIP toilets. Most of the toilets are full and the district has commenced with either the treatment and/or the emptying thereof.

Sterkspruit

Sterkspruit relies mostly on septic and conservancy tanks for waterborne sanitation. The existing older ponds have reached their capability as a stand-alone treatment system. A 2 Mℓ/day capacity WWTW was installed near the ponds. The works is a package plant format with a mix of anaerobic treatment and aerobic treatment. There is an inlet works, a concrete anaerobic pond and then secondary treatment in a suspended medium aerated plant. The technology is combines an aerobic suspended media treatment system after an anaerobic treatment process. This system utilises blowers to keep the floating media in suspension. The treatment system is technologically sophisticated. The final effluent is filtered and disinfected before release into the ponds initially and then the Sterkspruit River.

The proposed new WWTW has been approved for construction under the DWS Regional Bulk Infrastructure Grant and it will be linked to the existing ponds.

The small rural community of Herschel is served by a 0.5 Mℓ/day capacity Tecroveer activated sludge wastewater treatment package plant. The plant consists of an inlet works and the normal processes of secondary aerated treatment followed by settling, with the return of activated sludge. There is allowance for sludge drying beds. Access to the plant is a challenge in wet conditions and plans must be made to improve this situation. On-site storm-water management also needs attention. Final effluent is disinfected before disposal. The site is well-fenced and access is controlled.

Walter Sisulu Municipal Area

Maletswai

Aliwal North

The activated sludge Aliwal North WWTW is located north of the town and consists of two plants, a 5.5 Mℓ/day capacity old section and a new works with a capacity of 3.5 Mℓ/day. The condition of the works is satisfactory and the sites are well-fenced but access control needs to be improved. There are old structures that need to be demolished to improve safety and the overall appearance of the site. There are facilities for sludge drying.

The works are situated in the Free State Province side of the provincial boundary and the final effluent is discharged to a neighbour who has an agreement with the municipality to irrigate animal harvest with it.

Just recently, both plants have been refurbished and a new sewer pipeline and a centralized pump-station installed to increase the operational capacity and efficiency of the sewer network.

However, there has been increased number of sewage spillages reported throughout Aliwal North and the sewer network needs to be revamped in certain sections of Dukathole and Area 13.

The town of Aliwal North has been experiencing a number of sewer spillages in the network especially at the pump stations. The significance of these sewer spillages is that they directly flow into the Orange River and the municipality has received a number of compliance notices from the Department of Water and Sanitation.

The Dukathole pump-stations have recently been upgraded and/or refurbished with the Vula Vala overhauled but the sewer distribution pipeline needs to be refurbished in order to reduce the sewer spillages into the Orange River.

Jamestown

Jamestown is served by a new oxidation pond wastewater treatment works located south of the town along the N6. Effluent is currently tankered to the works from numerous septic tanks across town. This is an expensive operation and a network needs to be prioritised to improve operating conditions. The works are fenced but access is control is unsatisfactory.

Gariep

Burgersdorp

Burgersdorp has a conventional activated sludge wastewater treatment works with a capacity of 2 Mℓ/day. The works consist of an inlet works with screening and grit removal, together with an extended aeration basin with a clarifier plant. Final effluent is disinfected before it is either discharged into the Stormbergspruit or distributed to the treated effluent users that include the country club, high school and Walter Sisulu Local Municipality. There are drying beds to deal with waste activated sludge. The works are well fenced with access control.

Portions of the sewer network are currently being overhauled because considerable portions of have been compromised as evident from the limited inflow into the works, extensive sewage spillages within the residential areas and into the Stormbergspruit River. The Department of Water and Sanitation has issued a number of non-compliances to the municipality as for the works.

Three of the five sewer pump-stations have been newly constructed in Thembisa Township and CBD, and are all operational. The Eureka pumpstation was refurbished in prior years and the upgrades to the WWTW and Mzamomhle pump-station are planned for implementation in the 2023/2024 municipal financial year.

Steynsburg

Steynsburg town has waterborne sanitation that is serviced by an advanced and relatively new Tecroveer activated sludge wastewater treatment package plant. The works is situated at the lowest point of the valley below town and collects all sewer from the town via a gravitational sewer mains. The works' treatment processes consist of screening, secondary anoxic and aerated treatment and settling/clarification. Final effluent is disinfected after pond treatment.

There are facilities for sludge drying but the management of grit needs to be improved as part of the works' waste management activities.

The WWTW is being upgraded in the current 2022/2023 municipal financial year to ensure its operational efficiency and the ability to deal with the increased sewer load.

Oviston

The small community of Oviston has a 0.2 Mℓ/day capacity Tecroveer plant with the normal unit operations. There are several leakages that require maintenance and refurbishment. Effluent leaving the works is disinfected and discharged into the Gariep Lake, but needs to be formally piped to a receiving area as the current discharge appears informal. Waste activated sludge is dried on site. The works are well-fenced and access is controlled.

Venterstad

Venterstad also has a Tecroveer activated sludge treatment works on the outskirts of town toward the west. The 1.0 Mℓ/day capacity works comprise an inlet works with screening and de-gritting. The secondary treatment process consists of an anoxic zone with aeration and post treatment clarification. There are drying beds for the waste activated sludge. Final effluent is disinfected before disposal into the Brak River. The reed-beds that form part of disinfection needs to be rehabilitated.The works are well fenced with adequate access control.

6.5 REGULATORY COMPLIANCE

In 2011, the Department of Water and Sanitation introduced an Incentive-based Regulation for both water supply and wastewater management processes of municipalities that are Water Services Authorities. These department programmes fall into the two categories: the Blue Drop Certification Programme for Drinking Water Quality Management Regulation and the Green Drop Certification Programme for Wastewater Quality Management Regulation.

Blue Drop System

The Blue Drop process measures and compares the results of the performance of Water Service Authorities and their Providers, and subsequently rewards (or penalises) the municipality upon evidence of their excellence (or failures) according to the minimum standards or requirements that has been defined. The programme assesses the comprehensive aspects of each water supply scheme including the following:

- Water safety plans;
- Process Controller qualifications and training;
- Drinking water quality monitoring and compliance (microbiological);
- Incident Management Protocol; and
- Asset Management.

The JGDM has had some successes in the earlier years of the BDS with the works in Ugie and Sterkspruit achieved Blue Drop Status in 2011, with Ugie repeating the performance in 2012. However, the municipality has since lost those certifications and does not have Blue Drop Certification for each of the water treatment works within its jurisdiction.

As indicated above that one of the most important parameters/determinants of the Blue Drop System is the microbiological compliance levels of the final treated and disinfected water that is delivered from the works. Based on the JGDM 2021/2022 monthly microbiological compliance monitoring results and WSA's audits of the water supply systems, there is *an opportunity for a number of the municipal water treatment facilities to improve its performance in the next evaluation cycle that will be conducted by DWS.*

Water Safety Planning

A key responsibility of the JGDM as both the Water Services Authority and the Water Services Provider is to ensure safe and healthy drinking water quality.

A key element in the DWS Blue Drop Assessment Programme is the preparation and implementation of Water Safety Plans for each water system. These plans effectively document the *risks* from catchment to consumer and recommend remedial actions to mitigate against the identified risks to water drinking water quality. Water Safety Plans are required for all water supply systems in the district. More importantly, these Water Safety Plans must be used by municipal staff to inform their day to day activities.

The municipality has conducted risk assessments for all its water supply systems but has not developed the subsequent Water Safety Plans as yet and this is critical concern in the provision of water services.

Green Drop System

A key responsibility when performing the function of both the Water Services Authority and Water Services Provider is to ensure environmental health safety with regards to strict monitoring of wastewater quality. To help ensure this, the Department of Water and Sanitation has developed the Green Drop Assessment Programme. This seeks to regulate and enforce best management practices in wastewater collection, treatment, and treated effluent disposal.

The Green Drop Certification process allows the regulatory agency to measure, monitor and publish information about the quality of wastewater services, based on legislated standards or industry good practice. Only a wastewater treatment system can achieve Green Drop Certification according to the performance for that specific system as it scores against the set requirements such as:

- Wastewater Risk Abatement Plan;
- Qualified and properly trained process controllers, supervisors and maintenance team;
- Operational management and monitoring (e.g. manuals, etc);
- Effluent quality compliance;
- Sludge management;
- Any beneficial use of treated effluent; and
- Asset management.

The department employs the ***Cumulative Risk Ratio*** to assess each of the wastewater treatment facilities' functioning. The CRR has been designed to measure four key risk areas:

1. the *treatment plant's design capacity*,
2. *actual operational flow received at the plant*,
3. effluent quality determinands, and
4. technical skills compliance.

An increase in the CRR is an indication of poorly managed WWTWs whilst a decrease illustrates an improved performance of a WWTWs and reduced risks to public and environmental health.

The JGDM wastewater treatment facilities performance in terms of the Green Drop Certification based on the historical performance and the fact that none of its systems has ever received a Green Drop Certification.

Wastewater Risk Abatement Planning

The most important element of the Green Drop process is the preparation and implementation of Wastewater Risk Abatement Plans (W2RAP) described as Risk Based Management for each wastewater system. Like the Water Safety Plans, W2RAP effectively identifies and documents risks from the collection, treatment and discharge of effluent and sludge recommends remedial actions to prevent and manage these risks. The aim is to ensure that public health and environmental integrity aspects are addressed in a sustainable manner.

The municipality has conducted risk assessments for all its wastewater management systems but has not developed the subsequent Wastewater Risk Abatement Plans.

The Department of Water and Sanitation has indicated that it is the prerogative of each Water Services Authority to request any of its water and wastewater systems to be assessed if and when they believe that it has meets all the requirements to achieve a Blue or Green Drop Certification.

6.6 HOUSING DEVELOPMENT PROJECTS

The provision of houses remains the sole responsibility of the Department of Human Settlement and the three local municipalities play a facilitation function. The facilitation roles and responsibilities of the local municipality entails to amongst other things:

- Identification of suitable land for building of houses in line with the spatial planning of LMs;
- Engaging communities on the suitable type of houses to be built on their areas;
- Compiling a demand list, submit it to the municipal Council for endorsement then submit the project list to the DoHS;
- Compiling of beneficiary lists and submitting it to the department for scanning;
- Engaging other sector departments and entities for the provision of other services (e.g. water services bulk infrastructure, electricity, etc ;

The Department of Human Settlements then develops a project list of new houses to be built in dealing with the housing demand based on the budget availability for insertion into the local municipality's Integrated Development Plan. Each of the local municipality is required to develop a Housing Sector Plan (HSP) whose objective is to identify and assess the housing and infrastructure situation as it related to demand and supply for houses in its respective areas.

As a Water Services Authority and also having the responsibility for water services provision in the region, the district is required to integrate the housing development projects into its planning and cater for its respective needs in the different local municipal areas. This involves the confirmation of the following details that relates to:

- Availability of adequate raw water resources;
- Adequate capacity of the existing water and sewer infrastructure to cater for the additional demands of the respective housing units; and
- The capacity of municipality to effectively operate and maintain the additional infrastructure to be inherited from housing development projects.

A very critical and overlooked aspect of the current housing development delivery methodology is that the Department of Human Settlement develops the bulk and internal networks of the new areas and connects to the existing water and sewer infrastructure of the district. *The district then inherits the infrastructure, and is then responsible for the effective maintenance thereof and includes that in its asset register. This highlights the importance of the district's involvement in planning, design and construction of housing development projects in order to avert excessive operational and maintenance costs*.

The district and ECDHS have agreements with regard to the approval of housing development projects right from the planning stage including inputs in the specifications and design of the water and wastewater infrastructure. However, the dormant District Planning Tribunal is very critical to the integrated planning and implementation of housing projects across the district.

6.7 DWS 2021/2022 MUNICIPAL STRATEGIC SELF-ASSESSMENT SURVEY (MUSSA)

The Department of Water and Sanitation has overseen the annual use of the MuSSA to survey and assess the overall "business health" of a Municipality when fulfilling its water services function.

JGDM has participated in the MuSSA initiative over the last few years as this assists in the identification vulnerabilities and prioritizes remedial actions in order to ensure effective water

services provision. The survey also affirms those water services delivery areas in which the district is performing admirably. By identifying these key areas of business health vulnerabilities, the MuSSA allows the municipality, DWS and other sector partners to effectively plan and direct appropriate resources to enable more effective water services. Such proactive measures will contribute directly to the improvement of key service areas of vulnerability within JGDM. As such, the MuSSA and the associated Municipal Priority Action Plan (MPAP) need to feed into and form an integral component of the JGDM's Water Services Development Plan (WSDP).

The JGDM MUSSA for the 2021/2022 municipal financial year was completed and submitted to the Department of Water and Sanitation for review during the current financial year. Below is the outcome of the DWS review.

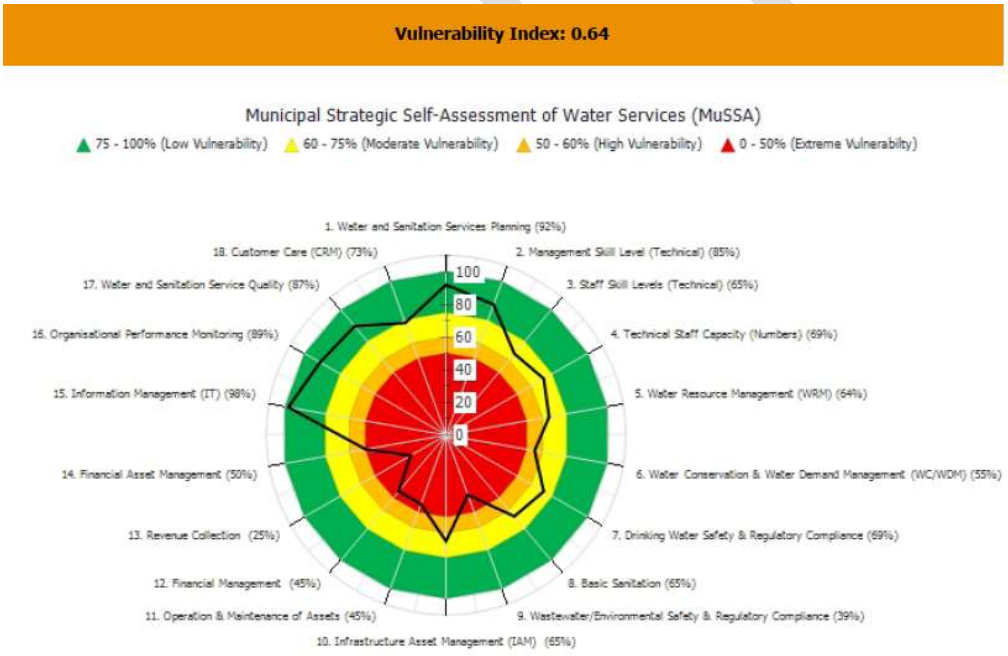

Figure 6-4 JGDM 2021/22 MUSSA Outcome

JGDM participated in the DWS' 2021/2022 MuSSA and the following key identified areas of municipal water services vulnerability were identified:

1. Water Conservation and Water Demand Management (55.0%)

2. Financial Asset Management (50.0%)
3. Operations and Maintenance of Assets (45.0%)
4. Financial Management (45.0%)
5. Wastewater/Environmental Safety and Regulatory Compliance (39.0%)
6. Revenue Collection (25.0%)

The most critical vulnerability of the municipality is the Financial Asset Management wherein:

- The district's investment in Asset Renewal is non-existent;
- Limited funding for asset repairs and maintenance; and
- The reliance on grant funding for capital expenditure.

Remedial measures will be identified and implemented to improve these areas and also to ensure that other areas do not fall back into the "red zone". In turn this will translate to a better MUSSA score for the district and improved water services provision.
The MUSSA and MPAP are planning tools and integral components to support for the Water Services Development Plan at the strategic level of a municipality.

6.8 OUTLINE OF WATER SUPPLY INFRASTRUCTURE

The WSA and WSP should facilitate the development of central repository for the storage of all the water and wastewater infrastructure information. This must include such information as:

- Design Reports and manuals
- As built Drawings
- Water Safety Plans
- Wastewater Risk Abatement Plans
- Operational and Compliance Monitoring
- Incidence Reports
- Emergency Response Plans

This must be aligned to the Infrastructure Assets Register of the municipality and the GIS database.

6.9 MASTER PLAN

A comprehensive Water and Sanitation Master Plan enables a municipality to ensure that the needs of all communities are met over the medium and long term, and that the refurbishment and upgrading of existing water services infrastructure take place in a planned and organized

manner. The master plan will also guide the municipal strategic decisions with regard to the infrastructure investment, future applications for funds for the upgrading of water services in the region.

During the 2021/2022 financial year, the district received funding from the Development of Southern Africa (DBSA) for the development of a municipal-wide Integrated Water and Sanitation Master Plan by consolidating the various area specific master plans. The development of the IWSMP also entailed the following:

1. The evaluation of the long-term viability of existing infrastructure to cope with expansion and augmentation;
2. An identification of the new infrastructure required, and the proposed timelines regarding when such infrastructure will be required;
3. The assessment which will address the primary and secondary networks, and the primary and secondary equipment needed to deliver a reliable, safe and affordable service to all existing and future consumers within the area;
4. Recommendations to assist the district with acquiring land, registering servitudes and undertaking Environmental Impact Assessments (EIAs);
5. Detailed designs for construction of identified priority projects over the short, medium and long-term; and
6. The compilation of an implementation strategy for the development of water supply and sanitation infrastructure.

Ideally, the consolidated master plan will inform the three-year Council Approved Infrastructure Development Plan as outlined in Section 12: Project Development of this document. The master plan will also assist the municipality with unlocking economic development within and around the municipality in terms of providing water services required for economic activities.

6.10 GUIDELINES AND STANDARDS FOR THE WATER AND SANITATION INFRASTRUCTURE DEVELOPMENT

The cost of an infrastructure asset is determined not just by the size, nature, capacity and other variables of that infrastructure, but by amongst other such issues as:

- Its fitness for purpose;
- How well it was designed;
- Materials specified and used; and

- The quality of the construction.

The choice of construction material and appropriateness for the local conditions has a direct contribution to the effective operation and maintenance of the said infrastructure. However, the technological choices, erroneous design and poor construction workmanship will lead to operational problems with significant costs. Furthermore, design and construction that does not take into account practical operation and maintenance issues may result in costly errors, financial, environmentally and in terms of service delivery.

The Joe Gqabi District Municipality should ensure the finalization and approval of the *Technical Guidelines and Standards for Water and Sanitation Infrastructure Development* to ensure that the design and construction of water supply and sanitation infrastructure is consistent with the municipality's existing network infrastructure, future plans in the region and that new offers minimum operational and maintenance costs over its life cycle.

6.11 WATER SERVICES INFRASTRUCTURE CHALLENGES AND RISKS

The status of municipality water and wastewater infrastructure ranges from old to modern technology and varies across the district. However, there are a number of challenges and risks that need to be addressed to ensure sustainable provision of water services

a) Water supply infrastructure:

- Siltation has become a critical problem as it has reduced storage volumes in some dams
- Lack of Water Safety Plans for the individual municipal water supply systems
- Ineffectual and ineffective diesel usage and management in rural water supply schemes;
- High non-revenue water in all the water supply systems;
- Lack of consumer education and awareness contributes to theft & vandalism;
- Incorrect water meter and insufficient monitoring of consumers;
- Illegal connections that disrupt water supply to targeted areas;
- Insufficient monitoring of water loss influences such as household connections, indigent populations and length of distribution mains;
- Lack of Incident Management Protocol, and security (access control) in a number water treatment facilities is both a legal compliance contravention, operational limitation and occupational health risk;

b) Wastewater infrastructure:

- Extensive sewer spillages in Burgersdorp, Oviston, Steynsburg, Venterstad, Ugie Aliwal North and Burgersdorp due to vandalism and overwhelmed sewer systems;
- Lack of Wastewater Risk Abatement Plans for the municipal sewer systems;
- Lack of municipal-wide consumer education and awareness programme;
- Lack of Incident Management Protocol, and security (access control) in wastewater treatment facilities is both a legal compliance contravention and operational limitation;

There are a number of shortcomings that are applicable to the condition and functioning of both the existing municipal water supply and sewer infrastructure:

- There is aged infrastructure in the municipality that requires to be refurbished, especially in the towns, and prone to age related failures;
- Some Infrastructure has insufficient capacity to meet identified demands thus affecting the operational efficiency thereof;
- The management of infrastructure is difficult given the financial and human resources;
- There is no systematic funded programme to tackle maintenance and refurbishment backlogs, and these rely solely on grant funding; and
- There is insufficient operating information to guide fact based interventions to systematically tackle problems.

6.12 WATER SERVICES INFRASTRUCTURE STRATEGIES AND OBJECTIVES

- Conduct an audit of all the municipal-owned water and sanitation infrastructure located within the three local municipalities;
- Revival of the District Planning Tribunal;
- Develop a long term strategy to manage silting of dam;
- Reclaim and recycle water released from water works for beneficial use. Finalization of the contracts of mandate for the applicable areas;
- Address balancing of employment of (qualified) process controllers to deal with water quality and management;
- Urgently address sewer spillages in Burgersdorp and Aliwal North;
- Improve the system of diesel management;
- Enhance Occupational Health and Safety in water services provision in order to avoid disruption of services and possible litigation; and

SECTION 7: WATER CONSERVATION AND DEMAND MANAGEMENT

Water Conservation and Demand Management is an important activity in water services provision in that it attempts to control excessive consumption and water wastage. While WCDM falls organisationally under the WSA unit, many of the water conservation issues have a direct bearing on water services operations in the WSP and Finance sections.

Water conservation is aimed at ensuring the minimisation of loss or waste of water, care and protection of water resources and the efficient and effective use of water. Water demand management on the other hand refers to the adaptation and implementation of a strategy by a water institution or consumer to influence 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.

By taking the catchment management perspective, the municipality is also taking cognisance of the water resources availability, local economic development, competing water users, transboundary/ international rivers commitments and environmental considerations.

The level of effectiveness to implementing WC/WDM touches a number of the municipality's responsibilities in terms of water management, namely but not limited to:

a) Provisioning of water resources for both current and future needs;
b) General awareness of water resource and services for both the municipality and its stakeholders;
c) Management of the water services assets; and
d) Water quality management.

The background and context of Water Conservation and Demand Management at the Joe Gqabi District Municipality is that while inroads have been and continue to be made towards achievement of optimal WCWDM conventions, the institution is operating within the context of a number of challenges and constraints including amongst others:

- Water losses within the local municipalities are a serious concern;
- JGDM needs to eradicate water backlogs and this can be achieved by ensuring efficient use of water;
- Ageing infrastructure;
- The prevailing drought conditions in the past 4 – 5 years;

- The geographical landscape inherently has limited water resources. A combination of these factors therefore, means that there has been tremendous stress on water resources at the institution;
- The Day-to-day Infrastructure Management Processes are not optimal;
- Lack of an established institutional WCWDM strategy;
- Inadequate, reliable and consistent Management Information Systems necessary to achieve optimal institutional WCWDM implementation; and
- Limited financial resources for operations and maintenance.

The foregoing factors therefore result in a number of operational and strategic challenges encountered in the WCWDM value chain at the Joe Gqabi District Municipality.
Institutionalising WC/WDM is a long-term undertaking and not a once-off project as has often been seen in the recent past. Hence, it will require effective planning, resourcing and integration in the normal operations of the municipality.

7.1 WATER RESOURCE MANAGEMENT

The National Department of Environmental Affairs' Working for Water Programme has been active in the Mzimvubu Catchment Area of the district. The programme resides within the Natural Resources Management section in the Community Services Department, and it entails the removal of alien invasive species in water stressed catchments in order to avail more water to provide to under-serviced communities and settlements.
The programme has significant benefits for the communities, the municipality and the national government responsible for both natural resources management and water resources management. These include but not limited to:

- Job creation and poverty alleviation;
- Water availability for treatment and abstraction;
- Reduction of municipal water treatment costs;
- Protection of the water infrastructure integrity and functioning through the reduction of siltation;
- Improve water security;
- Limit the occurrence of flood events; and
- Protection of the ecosystem.

For the 2022/23 financial year, the JGDM Natural Resources Management section has been allocated R5.4million for the Working for Wetlands programme in order to continue with the on-going work in the Elundini Municipal areas of Ugie and Maclear within the Mzimvubu Catchment area. The core of the current works involves the restoration of the wetlands functioning to improve water availability to the different water uses in the two catchments.

The extent and magnitude of water availability in the upper reaches of the two catchments feeding Burgersdorp town need to be determined and reconciled in order to optimize the raw water sources and improve water supply to the applicable communities.

7.2 CONJUNCTIVE USE OF SURFACE WATER AND GROUNDWATER

Water can be conserved by integrating the management, development and utilization of surface and groundwater resources which can contribute to the minimising of groundwater abstraction during periods of excess surface water supplies or utilizing groundwater during times of surface water unavailability.

As demand increases and water resources become scarce more attention must be paid to conjunctive use of surface water and groundwater sources within the district. Presently, the municipality operates a number of surface-groundwater conjunctive water supply systems which include:

1. Aliwal North
2. Barkly East
3. Burgersdorp
4. Jamestown
5. Lady Grey
6. Steynsburg

The bulk water supply system of Mt Fletcher is supplemented by a number of boreholes which are utilized during downtimes or emergency water supply needs. Some of these conjunctive uses are dictated by either drought conditions and/or form part of a proactive water demand management initiative of the municipality.

7.3 WATER SUPPLY

As a result of the increasing demands of water and its limited nature, the implementation of water conservation and water demand management is imperative in order to not only reduce

water losses but also the eradication of water supply backlogs, asset management and improve revenue collection. With the conceptualisation of the No-Drop initiative as part of the DWS Blue Drop Assessment, the importance of WC/WDM is gaining more prominence and priority.

The ultimate purpose of the WCDM implementation is to reduce the cost of water to citizens by delaying the need for development of new water sources or augmenting existing sources. This is achieved through implementation of a combination of appropriate activities within the four WCDM strategic pillars comprising the following:

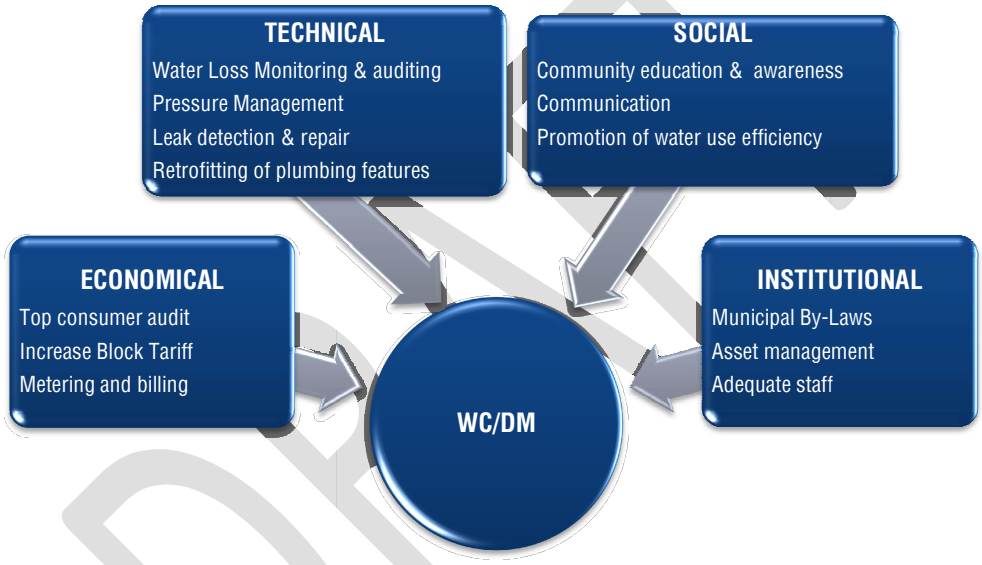

Figure 7-1 Water Conservation and Demand Management strategic pillars

During 2021/2022, the district has continued with the implementation of the interventions Water Conservation and Water Demand Management Strategy including the following:
JGDM is busy implementing WCDM. This is done through the following activities:

1. On-going district wide water balance exercise,
2. Installation of Smart Bulk Water Meters,
3. Containment exercise on major water leaks,
4. Continuation of consumer education and awareness on WCDM matters,
5. Refurbishment of WTWs to maximize production and minimize water losses,

6. Installation of Telemetry Systems (remote management of infrastructure to ensure maximum performance and guard against water losses).

7.2 JGDM 2021/2022 Water Loss Report

During the 2021/2022 municipal financial year, JGDM appointed a service provider to provide a high-level analysis and determine the current water loss situation within JGDM. The objective of the study was to monitor and assess the current level of service (in relation to water delivery) being provided for audit purposes.

The specific study objectives, that have remained the same as previous evaluations, were outlined by JGDM and these focus on:

- Assessing the current level of service.
- Determining the water losses across the entire system.
- Using "Best Practice" guidelines to assess the system.
- Assessing the cost implications of water losses.
- Assisting JGDM to conform with the DWS requirements on evaluating losses.
- Outlining a WCDMP that will help improve the system.
- Recommending improvements to JGDM's current water infrastructure to advance water use monitoring.

The above mentioned is in accordance with the Integrated Development Plan and conforms to current government legislation. It should be noted that during the previous financial years, methods for improvement were outlined, but the listed plans have not been fully implemented due to various obstacles such as funding, cleaning up of accounts and changing the billing authorities for the various LM's. Internal changes related to employee structures have also delayed the full-scale implementation of the long-term plan

This table below provides an overview of the local water losses since the 2013/14 municipal financial year including 2021/2022:

Table 7-1 Summary of JGDM Water Loss Report

%Non-revenue water	Elundini LM	Maletswai LM	Senqu LM	Gariep LM	JGDM Total
2013/14	57.8%	55.8%	40.0%	57.1%	51.7%
2014/15	34.7%	41.5%	30.4%	49.8%	39.6%
2015/16	50.0%	65.0%	27.5%	29.4%	45.8%
2016/17	42.0%	62.7%	27.2%	53.3%	49.0%
2017/18	36.0%	53.6%	38.7%	38.6%	44.2%
2018/19	5.6%	50.5%	32.1%	41.8%	34.9%
2019/20	7.8%	44.2%	36.4%	51.6%	36.4%
2020/21	21.7%	19.4%	34.8%	53.4%	32.7%
2021/22	22.7%	36.8%	31.1%	57.3%	36.9%

The 2021/22 FY the non-revenue water from July 2021 to June 2022 has increased by in JGDM. More revenue is lost in 2021/22FY, in comparison to the 2020/21 FY. There is an increase of 4.2% from FY2020/21 to FY2021/22. The number of estimations made need to be reduced and effort made to obtain actual reading that will provide a realistic reflection of supply and distribution of water.

JGDM is busy implementing WCDM. This is done through the following activities:

- On-going district wide water balance exercise,
- Installation of Smart Bulk Water Meters,
- Containment exercise on major water leaks,
- Continuation of consumer education and awareness on WCDM matters,
- Refurbishment of WTWs to maximize production and minimize water losses,
- Installation of Telemetry Systems (remote management of infrastructure to ensure maximum performance and guard against water losses).

The water losses indicate that JGDM must continue with their strategy to better manage and assess its systems. In the preceding financial years, a WCDMP outline has been proposed to aid in achieving better management and conservation of water. This strategy is still applicable for the area. Shortages of accurate water meter readings, checking indigent populations and system characteristics restrict the accuracy of analysis. However, JGDM now has a way forward in which goals have been outlined.

JGDM needs to focus on immediate infrastructure provisions required in order to improve the accuracy of water measurement and control. This will entail the installation of more bulk and zonal/village-level water meters to monitor water usage and wastage more closely.

Shortages of accurate water meter readings, the lack of updated indigent populations and system characteristics restrict the accuracy of analysis. The study recommended a number of priority interventions that will provide significant returns for the district in terms of reducing water consumption and water losses:

1. Leaking infrastructure and irresponsible use of water in schools and other municipal facilities;
2. Leaking bulk infrastructure and wastage at the supply source;
3. Leaking infrastructure and plumbing fittings in low income and informal settlements:
4. Vandalism and theft of communal stand pipes resulting in excessive water losses especially at night.

However, the district has been implementing a number of water conservation and water demand management interventions during the 2017/18 financial year including the installation of bulk water meters. The outcomes of these projects will be included towards the end of this current financial year.

The evident implementation of WCWDM by the Water Services Authorities is consistently being made a compulsory requirement in infrastructure grant applications for the justification of augmentation of water resources.

According to the JGDM 2021/2022 Water Loss Report, the municipality must prioritize the implementation of the following interventions in order to improve the detail and quality of future assessments and reports:

1. Improved accuracy of bulk water meter readings
2. Implementation of WCWDM Pilot projects in priority areas with excessive water losses

The unit cost of water supply has decreased from R17.75 per kilolitre to R16.36 per kilolitre but the operation of the various water systems can be improved from the implementation of both technical and non-technical measures like improved water meter readings, addressing illegal water connections, regular billing and monitoring of consumers.

7.4 WATER CONSERVATION & DEMAND MANAGEMENT CHALLENGES AND RISKS

- Insufficient funding for the comprehensive implementation of WCWDM programme;
- Inadequate bulk and zonal metering to generate accurate data and information for the development of a realistic water balance;
- JGDM inherited a fairly old water infrastructure with an average age in excess of 50 years.
- A substantial portion of bulk meters are either out of order or are yet to be installed.

- JGDM does not have adequate information and data required to implement and monitor a clear and determinable WCWDM strategy.
- Illegal connections, theft and vandalism;
- Insufficient monitoring of consumers; and
- Effective monitoring and billing of and collection from high consumption water users.

7.5 WATER CONSERVATION & DEMAND MANAGEMENT STRATEGIES AND OBJECTIVES

Water resource planning and the implementation of augmentation options for surface water resource options is a DWS competency, although JGDM is responsible to implement and manage water use and reuse initiatives. Therefore, the objectives and strategies of JGDM in this regard are the following:

- Extend the Working for Water Programme to other strained catchments within the district, depending on the grant funding availability;
- Re-assess the efficiency of the existing primary raw water storage facilities; excessive siltation does reduce their capacity.
- Design and implement a comprehensive consumer education and awareness programme with a focus on water use efficiency;
- Devise a strategy for the effective metering, billing and revenue collection from high water users;
- Extend the installation of bulk water metering to other bulk water supply systems especially at source, at WTW (incoming and outgoing) and at command reservoirs;
- Undertaking the bulk meter replacement and maintenance programme.
- Pressure management, install advanced pressure management equipment (PRV's) in areas with high pressures and strictly monitor the pressure levels going forward.
- Relocation of meters inside consumer yards to outside the yards.
- Establish a comprehensive groundwater monitoring plan for the monitoring of water levels and quality (rural and urban boreholes).
- Enhance enforcement of By-laws to punish those who willfully 'do wrong', unauthorized meter relocation, meter tampering, illegal connections, vandalism and theft, etc.
- Retrofitting of plumbing fittings / equipment in lieu of indigents

SECTION 8: ASSOCIATED SERVICES/PUBLIC AMENITIES

Introduction

As the only Water Services Authority within its jurisdiction, the Joe Gqabi District Municipality provides water services to the schools, police stations, magistrate courts, prisons, clinics and hospitals accordingly to the allocation of each facility i.e. to all the facilities allocated within the Urban Edge are provided with high level of service while the ones in the rural areas are provided as per RDP standards or provide own on-site water supply and/or sanitation services.
In ensuring sustainable water supply and sanitation services requirements in schools, clinics, hospitals, police stations, prisons and magistrate courts, there are separate arrangements with the relevant departments in consultation with the Department of Public Works as the custodian of provincial and national infrastructure development, operations and maintenance.

JGDM always endeavours to ensure the availability of adequate bulk water and sanitation services infrastructure to support current and planned public institutions. For new developments, the process involves an effective communication between the responsible department and the municipality to ascertain and confirm the ability of the existing bulk water and sanitation infrastructure to cater for the new demands.

The detail of public institutions located within the district is given as follows:

Table 8-1 List of (serviced) public institutions within JGDM

	Urban	Rural	Total
Police Stations	12	10	22
Magistrate Courts	10		13
Prisons	5	0	5
Clinics	40	11	52
Hospitals	11	0	11
Schools	45	313	358
FET	3		3
Public swimming pools	1	0	1

In line with the demographics and economic activities of the district, the public amenities are largely found in the urban areas. There are a number of public institutions such as clinics,

schools, and police stations in the traditional and rural areas. It is important to note that there are a larger number of schools in the traditional and rural areas that are either serviced by the municipality water supply system or using their own groundwater sources.

The Eastern Cape Department of Education is embarking of rationalizing programme which entails the closing and merger of schools thus the construction of mega-schools with higher level of services in terms of water supply and sanitation services.

There are two institutions of higher learning located within the district is the Ikhala and Ingwe Technical and Vocational Education and Training (TVET) Colleges which have three campuses located within Aliwal North, Sterkspruit and Mt Fletcher. The TVET campuses are connected to the municipal water supply and wastewater networks, and Ikhala FET is expanding its two facilities which will increase its water demand and wastewater load that the district will have to contend with.
The Aliwal Spa in Aliwal North has been brought into operation as a tourism centre thus the water supply needs and sewer demand load from the facility will have to be considered in the management of and billing for the services in the area.

8.1 WATER SUPPLY TO INSTITUTIONS

Where water supply network is in place the applicable public institutions will receive priority in terms of connection and in those areas where there is not water reticulation system there are provisions for water carting on an as needs basis and in line with the municipality's tariff policy. Where groundwater sources are available, the municipality encourages the institutions to tap into that resource as it reduces the pressure into the municipal water supply network.
Furthermore, in cases where a public institution utilizes its own water sources (groundwater and/or rainwater harvesting), the onus is on the user to ensure the water supply is operated and maintained in such a manner that the water quality is adequate for human consumption. The municipality needs to be informed of such in order for the Municipal Health Services unit to monitor compliance with the legislated drinking water quality requirements.

8.2 SANITATION SERVICES TO INSTITUTIONS

In areas where a municipal sewer network is available, the municipality will ensure that the public institutions are connection as per the relevant processes, procedures and tariffs of the municipality. Wherein the public institutions utilize on-site sanitation such septic/conservancy

tanks, there are municipal provisions for sewage removal and transportation on an as needs basis and in line with the municipality's tariff policy. However, the obligation is on the user to operate and maintain its own on-site sanitation facility. The other sanitation alternative that is utilized by most of the rural schools within the district is the Ventilated Improved Pit (VIP) toilets.

The JGDM's Municipal Health Services will monitor all public institutions to ensure that conditions and state of repair of the facility does not cause harm to public and environmental health as per the applicable municipal by-laws together with the norms and standards of that sector.

Annexure C a list of the institutions which are located within the district with a number of them receiving water supply and/or sanitation services from the municipality. Even through the list is not comprehensive; it does indicate the extent of institutional water consumption and sewer load that the district has to contend with even though the level of service will differ from one municipal area to another. In addition, the list can be utilized to identify and quantify the potential paying consumers and revenue sources.

8.3 CUSTOMER RELATIONS

As is applicable to an exchange of goods and services, it's the same for water supply and sanitation wherein people are expected to pay for services, customer relations is important. The service provider also requires the cooperation of the communities to ensure that safeguarding of equipment and infrastructure of the municipality.

Public institutions/amenities that receive municipal water supply and sanitation services are required to pay and the municipality endeavours to ensure that the facility is metered and billed in order to recover the costs of providing the service. This necessitates the management of the relationship between the service provider and the customer in terms of clear outline of roles and responsibilities in terms of water services planning and provision in existing and new facilities.

The Chief Financial Officer has established good communication and working relations with a number of government departments which has led to improved payment levels.

8.4 ASSOCIATED SERVICES CHALLENGES AND RISKS

- Uncertainty on the number of public institutions receiving water services from JGDM.
- Information pertaining to the current and future water usage and service levels.
- Billing of and revenue collection from the government departments responsible for the various institutional facilities receiving water services from the district.
- The servicing of VIP toilets in rural households, schools and clinics.

8.5 ASSOCIATED SERVICES OBJECTIVES AND STRATEGIES

- Development of a detailed information regarding these water users through collaboration with the relevant departments especially the Department of Education;
- Ensure effective metering, billing and revenue collection from government departments;
- MHS to continue monitoring of all public premises to ensure compliance to health requirements and water quality standards;
- Improve the response to complaints for the servicing of institutional septic/conservancy tanks; and
- Review the agreements with Department of Public Works on the operations and maintenance of their wastewater treatment facility in Mt Fletcher

SECTION 9: CUSTOMER SERVICES PROFILE

Consumer communication and relationship management is one of the most critical areas in the water services provision function. It is an area that encompasses communication, public education and awareness, dealing with the public database management, billing and statements, revenue collection and credit control, responding to complaints and inquiries relating to water supply and sanitation services provision.
The Customer Services of the municipality is structured in two components with the Communication and Customer Care Centre functions located in the Institutional Support & Advancement Directorate and, the Community Awareness and Education responsibilities assigned to the Water Services Provision section within the Technical Services Department.

The Communications section conducts Annual Customer Surveys as part of a commitment to continually improve the performance of the JGDM's water services provision. Regular feedback from customers is an effective means of tracking the performance and effectiveness of the municipality's water supply and sanitation services delivery.

The water and sanitation community awareness and education activities of the municipality are performed by the Institutional and Social Development (ISD) unit that is located within the Water Services Provision section. The unit plays a critical role in the facilitation and monitoring of water and sanitation services and also contribute to the social integration in water and sanitation infrastructure development projects. The unit requires human capital and resource material together with the development and implementation of a structured community education and awareness programme around the provision of water services to all communities within the district and the commemoration of national environmental days.

More importantly, the continued collaboration between the ISA, WSP and the Finance Department on the communication and information sharing around the billing, revenue collection related matters and the municipality's Prepaid Meter Programme can further result in improved household water usage, revenue collection and water services provision.

9.1 CUSTOMER SERVICES INSTITUTIONAL ARRANGEMENT REVIEW

The new *Directorate: Institutional Support and Advancement Department* was developed to streamline and improve the municipal customer care services, and enhance communications, public participation and the intergovernmental relations functioning of the district.

Four divisions reside under this directorate namely Political Protocol Management, Communications, Marketing, Media, Public Relations and Customer Care, and Inter-Governmental Relations and the Division IT infrastructure Support.

9.2 CURRENT ACTIVITIES AND STATUS QUO

The municipality currently utilizes a number of avenues to ensure the dissemination of information to and engagement with the public:

- Website (www.joegqabidm.gov.za)
- Facebook page (Joe Gqabi District Municipality
- Local commercial and community radio stations; and
- Quarterly JGDM newsletter.

The legislated municipal processes including Mayoral Outreach and Integrated Development Plan (IDP) public participation road-shows of both the district and three local municipalities are also utilized to engage the communities on water services plans, projects and operational issues.

The municipality has a Customer Care Toll Free Number (0800 201 726) for the reporting, querying and complaints related any water supply and sanitation services related matters. Furthermore, each of the Water Managers maintains a WhatsApp group with the councillours, ward committees and business community wherein they operate. In the rural areas that are either supplied from the bulk water supply system or stand-alone groundwater supply schemes, the ISD Coordinators has established Water Committees to facilitate communication with the communities and these comprise the ward councillour, ward committee and traditional leader(s).

Considerable strides and improvements have been achieved during 2020/2021 and 2021/2022 with regards to engagements with the traditional leaders in collaboration with in addressing some of the challenges that affect the provision of water supply and sanitation services provisions.

9.3 ANNUAL CUSTOMER SURVEYS

The municipality conducts customer satisfaction surveys for water supply and sanitation services in collaboration with the three local municipalities within the region. The aim of this survey is to help the municipality in gauging public perceptions and opinions around the levels of water and sanitation service delivery and interactions between the two (public and municipality) to identify areas of improvement.

These surveys are undertaken on an annual basis to gauge the customer satisfaction level in formal domestic, informal domestic and business sectors and to identify specific issues of concern. The last customer survey was conducted in the 2016/17 municipal financial year in all the three local municipal areas of the district but the outcomes of which have not been assessed and documented.

The three local municipalities also undertake ward-based annual Community Satisfaction Surveys on services they provide to the public (i.e. roads, waste management, electricity, storm-water, etc). The district municipality does piggy-back on the local municipality to ensure integration, avoid duplication of efforts and unnecessary expenditure. The collaboration can be improved to ensure efficiency and clear indication of the consumers' understanding, satisfaction and experience of service delivery and all engagements with the respective municipalities.

9.4 CUSTOMER SERVICES CHALLENGES AND RISKS

- Lack of a comprehensive consumer education and awareness programme;
- Functional and ineffective customer care system and centre;
- Inadequate customer satisfaction surveys; and
- Lack of proactive water and sanitation customer education and awareness.

9.5 CUSTOMER SERVICES OBJECTIVES AND STRATEGIES

- Conduct regular municipal-wide customer satisfaction surveys as part of the Customer Care Management Plan;
- Finalize the programmes and resourcing of the ISD and Communication functions;
- Develop and implement a consumer water and sanitation education and awareness programme (informing customers of water and wastewater system O&M activities, water quality, resource protection/pollution, reporting incidents/security concerns, etc.); and
- Convene forums with traditional leaders, councillours of the local municipalities and communities on all aspects of water supply and sanitation services provision.

SECTION 10: FINANCIAL PROFILE

The financial profile of the JGDM consists mainly of the capital programme and the operational budget. The operational budget consists of recurring income items and expenditure items, while the capital budget comprises specific projects in infrastructure investment and to a lesser extent, investments in systems.

The operational budget should comprise the main budget of the municipality and the key tool that determines the sustainability of the service delivery mechanisms. The focus of municipal budgeting should in future be the operational budget, as in an ideal society where most households have sustainable and decent incomes, a municipality should be largely self-financed in terms of recurrent expenditure items and for refurbishment, augmentation and new capital investment, with national fiscus playing a smaller role. The surplus of income over normal recurring expenditure creates the space for further capital investment.

The legacy of our political past has created an environment wherein poverty has rendered large portions of our households without decent incomes, and therefore unable to fund municipal services without substantial support from the National Fiscus. It should be a long-term objective of all organs of state to create a future scenario where households have decent incomes and are able to afford a municipal service package. Currently, operational budgets are largely grant finance (Equitable Share) based, with service charges playing a small component of income and various statutory grants largely financing operations.

The capital budget comprises mostly statutory grants from the National Fiscus to cover the costs of services backlogs for households that do not have adequate access to basic water supply and sanitation services, however defined. The main source is the Municipal Infrastructure Grant (MIG) and supported by other grant sources.

10.1 JGDM Budgeting Structure

JGDM undertakes water and sanitation as its main service offering, while also undertaking other functions like district access roads, environmental and primary health, disaster management, fire services and other functions. All these are financed from mostly grants and user charges/agency fees. The JGDM operating budget is divided into the following functional areas or departments:

- Executive & Council
- Budget & Treasury

- Water Services Provision
- Technical Services
- Community Services
- Corporate Services
- Institutional Support and Advancement
- Other

Water and Sanitation Services provision comprises the bulk of the financial responsibilities of the district and most of the municipal functions are structured to support this central mandate. The bulk of financial resources are therefore allocated to the functions of Water and Sanitation.

The 2022/23 MTREF Budget has been drafted with requirements of the MFMA, which are set out below. More importantly, the District Municipality is cognizant of the financial environment in the National sphere. Drafting the budget has taken into account imminent exorbitant Eskom Tariff increases, the volatile Rand, sluggish economic growth, high rates of unemployment and uncertainty of fuel prices.

The budget has also noted the Minister of Finance's speech in February 2022 and attempts to squeeze and cut costs and set revenue targets that need to be achieved to ensure a financially sustainable institution. The municipality had its 2022 Strategic Planning session during March 2022. The budget therefore endeavors to encapsulate deliberations at various Strategic Planning sessions held in March 2022. These include installation of meters, credit control and limiting the use of external service providers.

The Municipal Finance Management Act No. 56 of 2003 Section 16, read with Section 16(2) of the same act, requires a Municipality to draft the Municipal budgets under the following stipulated conditions

16. (1)the council of a municipality must for each financial year approve an annual budget for the municipality before the start of that financial year.

(2) In order for a municipality to comply with subsection (1), the mayor of the municipality must table the annual budget at a council meeting at least 90 days before the start of the budget year.

(3)Subsection (1) does not preclude the appropriation of money for capital expenditure for a period not exceeding three financial years, provided a separate appropriation is made for each of those financial years.

The surplus of the Final Budget is calculated as follows:

Table 10-1 JGDM Final Budget of 2022/2023

SUMMARY OF THE INCOME AND EXPENDITRE				
	Draft Budget 2022/23	**Final Budget 2022/23**	**Final Budget 2023/24**	**Final Budget 2024/25**
Total Revenue (excluding capital transfers and contributions)	667 322 604,00	686 822 604,00	708 972 364,00	740 265 374,00
Total Expenditure	636 753 998,00	656 441 889,00	662 296 797,00	687 382 284,00
Surplus / (deficit) - Operational	30 568 606,00	30 380 715,00	46 675 567,00	52 883 090,00
Total Capital Expenditure	292 133 650,00	269 183 650,00	237 206 100,00	288 296 750,00
Total Capital Funding	286 233 650,00	264 233 650,00	237 206 100,00	288 296 750,00
	(5 900 000,00)	(4 950 000,00)	-	-
Surplus / (deficit) - Total	24 668 606,00	25 430 715,00	46 675 567,00	52 883 090,00

The National Treasury has requested municipalities over time via the annual MFMA Budget Circulars to consider tabling a surplus budget on the statement of operating performance to enable municipalities to augment the capital replacement fund (CCR) which can be used to contribute to the Internally Generated Funding as a source of funding for the Municipal Capital Budget.

National Treasury is also of a view that a budgeted deficit is indicative that a municipality is living above the municipality's means.

It can also be noted in the table above that the MTREF Budget no longer have Depreciation and Debt Impairment added back. This is due to National Treasury requiring that both these line items be funded from Service Charges. As evident from the table above, the municipality has a budgeted surplus of R25 million.

The table below highlights the differences in Revenue between the 2022/23 Draft Budget and the 2022/23 Final Budget:

Table 10-2 JGDM Draft vs Final Budget for 2022/23 FY

Description	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25
Grants & Subsidies Received - Capital	246 233 700,00	234 233 700,00	237 206 100,00	288 296 750,00
Grants & Subsidies Received - Operational	377 206 300,00	389 206 300,00	398 699 900,00	416 136 250,00
Income for Agency Services	480 000,00	480 000,00	520 000,00	420 000,00
Interest Earned - External Investments	8 707 874,00	8 707 874,00	9 091 021,00	9 500 117,00
Interest Earned - Outstanding	54 691 617,00	54 691 617,00	57 076 576,00	59 623 071,00
Rental of Facilities and Equipment		5 000 000,00		
Other Revenue	3 849 237,00	6 349 237,00	11 412 232,00	11 965 531,00
Nett Service charges	222 387 576,00	222 387 576,00	232 172 635,00	242 620 405,00
Service Charges	480 047 409,00	480 047 409,00	501 169 500,00	523 722 131,00
Less: Free Basic Services	(257 286 399,00)	(257 286 399,00)	(268 607 001,00)	(280 694 317,00)
Less: Revenue Foregone	(373 434,00)	(373 434,00)	(389 864,00)	(407 409,00)
Grand Total	**913 556 304,00**	**921 056 304,00**	**946 178 464,00**	**1 028 562 124,00**

The Revenue of R 921 million includes grants and subsidies received are as per the Government Gazette, Division of Revenue Bill and service level agreements signed with various departments:

Table 10-3 JGDM MTREF Allocations for 2022/23 - 2024/25

LOCAL GOVERNMENT MTREF ALLOCATIONS				
Funding Sources	**Draft Budget 2022/23**	**Final Budget 2022/23**	**Final Budget 2023/24**	**Final Budget 2024/25**
	R'000	**R'000**	**R'000**	**R'000**
Equitable share	334 540	334 540	355 541	377 446
Infrastructure				
Municipal infrastructure grant	180 246	180 246	188 638	197 565
Regional bulk infrastructure grant	15 000	15 000	20 000	40 000
Water services infrastructure grant	60 000	60 000	38 000	60 610
Rural roads assets management systems grant	2 338	2 338	2 347	2 432
FMG	1 500	1 500	1 500	1 500
Expanded public works programme integrated grant	1 314	1 314	-	-
Municpal Systems Infrastructure Grant	4 262	4 262	3 640	3 640
Working for water/wetlands - SLA	-	-	-	-
Department of Roads and Transport - SLA	24 000	24 000	26 000	21 000
Total	**623 200**	**623 200**	**635 666**	**704 193**

As evident from the table above. The only change in revenue is the inclusion of gains from the sale of property, plant and equipment amounting to R2.5 million and rental of facilities and equipment amounting to R5 million.

The table below provides a high level summary of the Expenditure line items:

Table 10-4 JGDM Expenditure Line Items

Description	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25
Contracted Services	52 589 300,00	59 997 057,00	68 682 301,00	71 112 154,00
Debt Impairment	89 045 313,00	89 045 313,00	92 963 307,00	97 146 656,00
Depreciation and Amortisation	87 807 225,00	87 807 225,00	91 663 742,00	95 788 611,00
Employee Related Costs	256 257 429,00	255 713 897,00	267 532 762,00	279 571 731,00
Finance Charges	9 669 500,00	9 669 500,00	8 140 248,00	8 506 560,00
Transfers and Subsidies Paid	5 956 932,00	14 040 470,00	5 651 192,00	5 680 496,00
Other Materials	27 096 550,00	28 516 550,00	30 699 795,00	31 378 343,00
Other Operating expenditure	100 998 654,00	104 318 782,00	89 307 693,00	90 197 467,00
Remuneration of Councilors	7 333 095,00	7 333 095,00	7 655 757,00	8 000 266,00
Total	636 753 998,00	656 441 889,00	662 296 797,00	687 382 284,00

- The MFMA Circular no 85, 86, 91, 94, 98, 99, 107, 108, 112 and 115 issued by National Treasury, was applied in budgeting for operating expenditure, however strict measures were implemented toward non essential expenditures due to the current economical situation and the municipalities cash flow challenges.
- The Budgeted Employee Related Costs increased by 4.8%, as per the Salary and Wage Collective Agreement. The Employee Related Costs increase from the adjustments budget to the draft budget per the table above however did not increase with 4.8% due to measures which would be implemented in order to curb overtime expenditure.
- Other operating expenditure relates to the expenditure directly linked to operational grants allocated to the municipality. The following strategic institutional and water services or LED related projects are included in other operating expenditure:
  - R 200 000 is allocated to the State of the District Address;
  - R 350 000 is allocated to the Tourism Programmes;
  - R 80 000 is allocated to the Provincial Integrated Anti Poverty Strategy
  - R 350 000 is allocated for Public Participation;

- R 1.5 million is allocated for Community Works Programme
- R 1.314 million is allocated to EPWP (funded by the conditional grant).
- R 1.894 million is allocated toward the training of communities, councillors and officials.

- Grants and subsidies paid relates to the following allocations:
  - Mayoral projects amounting to R150,000.00;
  - R 154 950 allocated in support of Local Municipalities; and
  - Transfer to JoGEDA amounting to R13 million

Additional transfers to JoGEDA are as follows:

- R 1.5 million allocated to the RAFI Project (included in other operating expenditure);
- R 500 000 is allocated as part of to the SMME support and training programmes (included in other operating expenditure)

Operational Repairs and Maintenance amount to R73.8 million. The bulk of the costs is allocated to employee costs (R 53 million) due to the shift of effecting repair and maintenance of assets in-house. This is 11.24%, more than 10% of the Operating Expenditure. This ratio has been preferred over the 8% norm in relation to Property, plant and equipment due to the high value of the municipality's Property, plant and equipment. Please see table below:

Table 10-5 2022/23 JGDM Operating Expenditure

Audited Property, plant and Equipment	1 837 169 826
Repairs and maintenance at 8%	146 973 586
Equitable share	334 540 000
Repairs and maintenance as a percentage of Equitable Share	44%

Using the norm would have required that the municipality commit 44% of the equitable share to repairs and maintenance.

- Included in Contracted Services are the following MIG funded operational projects:
  - Senqu Rural Sanitation Programme, amounting to R6 million; and
  - Elundini Rural Sanitation Programme, amounting to R6 million.

- The municipality budgeted for a collection rate on service charges of 50% on consumers with conventional meters and 100% on consumers with pre-paid water meters. According to Provincial Treasury the norm is to allocate the remaining 50% as a provision for debt impairment. The municipality has however only applied the 50% to Residential Consumers.

Table 10-6 JGDM water services operational budget for 2022/23 FY

No.	Budget Item	Water	Sanitation	Total Budget
1.	Repairs and maintenance	5 846 200	1 011 000	6 857 200
2.	Chemicals	8 000 000	-	8 000 000
3.	Vehicle Hire	4 102 000	-	4 102 000
4.	Honey suckers	-	9 535 000	9 535 000
5.	Pressure jetting machine	-	2 530 000	2 530 000
6.	Fuel	1 952 300	6 439 000	8 391 300
7.	S&T	3 590 002	79 170	3 669 172
8.	Water carting	2 164 424	-	2 164 424
9.	TLB Hire	100 000	-	100 000
10.	Stationery	91 980	-	91 980
TOTALS		**25 846 906**	**19 594 170**	**45 441 076**

The 2022/2023 operational budget for the provision of water services is R45million with R25.8million going towards water supply and R19.5million allocation to the operations and maintenance of sewer infrastructure as outlined in Table 10-6 above.

This budget is not sufficient considering the type, condition and extent of the municipality's water supply and sewer infrastructure together with the sizeable and many rural water supply schemes that utilize groundwater and diesel powered pumps.

10.2 CAPITAL PROJECTS:

- The funding sources of all the capital projects are included above.
- The capital projects are inclusive of VAT

Table 10-6 JGDM Capital Projects for MTREF

Description of Project	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25	Funding Source
Furniture and Office Equipment	400 000,00	600 000,00	-	-	Own
Computer Equipment	2 500 000,00	2 500 000,00	-	-	Own
Vehicles	40 000 000,00	30 000 000,00	-	-	Borrowing
Machinery and Equipment	3 000 000,00	1 750 000,00	-	-	Own
Intangible Assets	-	100 000,00	-	-	MIG Top Slice
Total Capital Assets	**45 900 000,00**	**34 950 000,00**	**-**	**-**	
Sterkspruit: Upgrading of WTW and Bulk Lines	-	-	-	187 686 750,00	MIG
Elundini Rural Water Programme (ORIO)	17 500 000,00	7 500 000,00	20 000 000,00	-	MIG
Jamestown Bucket Eradication and Sanitation Phase 2	25 000 000,00	22 402 591,00	2 002 404,00	-	MIG
Aliwal North Water Treatment Works Holding Dams	18 000 000,00	7 000 000,00	23 000 000,00	-	MIG
Provision of Sanitation Infrastructure for Ugie: Phase 1	18 000 000,00	10 000 000,00	20 000 000,00	-	MIG
Maclear Water Treatment & Distribution Upgrade (AC Pipe Replacement)	10 000 000,00	10 000 000,00	-	-	MIG
Senqu Rural Water Supply: Work Package 1	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 2	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 3	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 4	8 000 000,00	-	14 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 5	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 6	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Senqu Rural Water Supply: Work Package 7	8 000 000,00	7 000 000,00	8 000 000,00	-	MIG
Lady Grey Water Supply: New Trunk and Reticulation Water Mains for KwziNaledi & Transwilger	6 000 000,00	-	10 000 000,00	-	MIG
Aliwal North Asbestos Pipe Replacement	9 233 650,00	-	10 000 000,00	-	MIG
Telle River Bulk Water Supply Scheme: Planning Project	1 500 000,00	-	2 203 696,00	-	MIG
Aliwal North Bulk Water Infrastructure for Housing Development	10 000 000,00	-	10 000 000,00	-	MIG
Maclear Upgrading of Bulk Water Services	-	-	20 000 000,00	-	MIG
Maclear Upgrading of Bulk Sanitation	-	60 331 059,00	-	-	MIG
Sterkspruit Regional Waste Water Treatment Works	15 000 000,00	15 000 000,00	20 000 000,00	40 000 000,00	RBIG
Refurbishment of WTW	15 000 000,00	15 000 000,00	-	-	WSIG
District Wide Refurbishment of WWTW	5 000 000,00	5 000 000,00	-	-	WSIG
Augmentation of Clear Water Storage	15 000 000,00	15 000 000,00	-	-	WSIG
District Wide WCDM	25 000 000,00	25 000 000,00	38 000 000,00	60 610 000,00	WSIG
Total Capital Projects	**246 233 650,00**	**234 233 650,00**	**237 206 100,00**	**288 296 750,00**	
Total	**292 133 650,00**	**269 183 650,00**	**237 206 100,00**	**288 296 750,00**	

10.2.1 Water Services Infrastructure Grant

The budget allocation for the 2023/24 and 2024/25 has been listed in Chapter 12 project due to the unavailability of the breakdown per project for the relevant financial years. The breakdown of the outer years will be listed upon approval of the relevant year's business plan.

10.2.2 Municipal Infrastructure Grant

The budget allocation for the 2024/25 financial year has been listed under the Sterkspruit: Upgrading of WTW and Bulk Lines project, due to the unavailability of the breakdown per project for the relevant financial year. The breakdown will be listed upon receipt of the updated draft implementation plan up to the 2024/25 financial year. Changes from the draft budget is as result of changes in the infrastructure implementation plan.

10.3 BUDGET / CASH MANAGEMENT:

- Due to financial constraints, the municipality was not able to budget for all operational and capital inputs.
- Departments provided wish lists, indicating the total additional funding required in order to execute their duties efficiently and effectively.
- This highlights the need for increased revenue collection, from all possible revenue generating avenues as well as the need for end users to do play their part in obtaining external funding.
- The municipality should therefore implement a similar practice, as implemented by Treasury.
- Departments should therefore be required to indicate how they will be spending their allocated budget in a modified Departmental Procurement Plan. Any money not spent by 31 December will be identified, circumstances for not spending reviewed and if required, budget will be transferred to other Departments.

10.4 TARIFFS:

The municipality embarked on cost reflective tariff structure during 2014/2015. Since 2014/2015 the tariffs were cost reflective and during 2017/2018 pre-paid tariffs was introduced for water and sanitation. The tariff structure changed during the 2018/2019 year to enable the municipality

to charge a higher tariff during periods when the district experience scarcity of water. The proposed increase is a 6% increase on all Tariffs, excluding businesses.

The tariff of service charges increased based on the cost whilst the sales, Free Basic Charges and Revenue Forgone are budgeted for based on the number of the average number of kilolitres sold per consumer multiplied by the number of consumers.

The basic charge is calculated by multiplying the number of the relevant meter with the relevance basic charge and the service charges increased as result of the yearly increase.

Free Basic Charges comprises of the free 6000 litres provided to all indigent households per month and the revenue forgone comprising of free 3000 litres to Prepaid Consumers has been provided for.

10.5 Financial Management Strategy

a) Institutional level

The municipality has reviewed its financial policies and the reviewed policies were adopted with the IDP and Budget in March 2022. A tariff restructuring for water and sanitation function has been implemented since 2007 so that income matches expenditure and to ensure there is funding for replacement costs and maintenance. The District is also investigating the possibility of recovering some service costs for Municipal Health Services (MHS) through the implementation of fines and certificate of acceptability. MHS policies will be developed and linked to bylaws.

Currently, the District has concluded and signed all service level agreements (SLAs) with WSPs on the supply, maintenance and revenue control with regard to water and sanitation. The SLA deals with financial management issues, such as cost recovery, metering, and billing. Billing is based on accurate data which status changes from time to time. Initiatives such as annual review of indigent registers and customer data are in place to ensure continued accuracy and consistency of billing data. The effectiveness of the billing systems have been assessed with the review of the revenue enhancement strategy (RES) and the WSDP review and the system is effective and efficient in billing consumers on a monthly basis as per norms and standards of revenue management tough enhancement measures are being implemented.

b) Financial Environment

High staff turnover is a challenge that leads to capacity gaps. Training of staff on effective usage of the financial system and other financial year has been prioritised. A new financial system, InzaloEMS, was sourced as an integrated system for the District.

There has been significant reduction in wasteful and fruitless expenditure which enhances the revenue of the institution. To limit payment of interest charged by creditors for late payment of accounts, the District has strict controls on overdue accounts.

To further improve revenue management bulk and individual meters are prioritised for implementation in all towns and later in all served areas. This measure will be implemented in the shortest time possible. The focus shifted to the implementation of Pre-paid water meters, which will improve on the collection of monies due.

9.3 Financial Prudence by Council

In dealing with revenue enhancement and financial recovery, the District has developed a strategy of funding deficit in the short term. A Revenue Enhancement Strategy, which also deals with financial recovery was adopted by Council in 2015. These plans require prioritising the following actions over the short to medium term:

- All moveable assets to be managed to ensure that they are being used productively
- That obsolete equipment be sold.
- Effective budget management to provide cost savings where at all possible
- The introduction of a revised organogram and still achieving the target of staff expenditure not being more than 40% of total budgeted operational expenditure
- Paying all creditors within 30 days
- Debtors turnover rate of 30 days
- Compile a five-year maintenance plan to ensure that equipment is always in a good condition.
- Finalizing the Financial Turn Around Strategy of the municipality
- The budget strategy is always to follow a Zero based budget
- Conservative approach to budgeting linked to critical needs that have significant positive impact on the institution and/ or community

- Portion of equitable share to be used for infrastructure projects
- Surplus required as at end result of the budget process
- Equitable share is an unconditional grant used for the implementation of DM powers and functions

10.6 Performance indicators and benchmarks

10.6.1 Borrowing Management

Capital expenditure in local government can be funded by capital grants, own-source revenue and long term borrowing. The ability of a municipality to raise long term borrowing is largely dependent on its creditworthiness and financial position. As with all other municipalities, Joe Gqabi District Municipality's borrowing strategy is primarily informed by the affordability of debt repayments.

The structure of the Municipality's debt portfolio is dominated by annuity loans. The following financial performance indicators have formed part of the compilation of the 2022/23 MTREF:

- *Capital charges to operating expenditure* is a measure of the cost of borrowing in relation to the operating expenditure. It can be seen that the cost of borrowing has increased from 1.5 percent to 1.6 percent. While borrowing is considered a prudent financial instrument in financing capital infrastructure development, this indicator will have to be carefully monitored going forward as the Municipality will eventually reach its prudential borrowing limits.

- *Borrowing funding of own capital expenditure* measures the degree to which own capital expenditure (excluding grants and contributions) has been funded by way of borrowing.

The Municipality's debt profile provides some interesting insights on the Municipality's future borrowing capacity. Firstly, the use of amortising loans leads to high debt service costs at the beginning of the loan, which declines steadily towards the end of the loan's term.

Safety of Capital

- *The gearing ratio* is a measure of the total long term borrowings over funds and reserves. The ratio has been consistent at 0.04 percent.

Liquidity

- *Current ratio* is a measure of the current assets divided by the current liabilities and as a benchmark the Municipality has set a limit of 1, hence at no point in time should this ratio be less than 1. For the 2022/23 MTREF the current ratio is 2:1. The estimated levels are better than industry norms.
- *The liquidity ratio* is a measure of the ability of the municipality to utilize cash and cash equivalents to extinguish or retire its current liabilities immediately. Ideally the municipality should have the equivalent cash and cash equivalents on hand to meet at least the current liabilities, which should translate into a liquidity ratio of 1. Anything below 1 indicates a shortage in cash to meet creditor obligations. A negative liquidity ratio needs to be considered a pertinent risk for the municipality as any under collection of revenue will translate into serious financial challenges for the Municipality. As part of the longer term financial planning objectives this ratio will always have to be set at a minimum of 1 which will be exceeded in the MTREF.

Other Indicators

- Employee costs as a percentage of operating revenue has decreased from 39 percent to 37 percent for the 2022/23 financial year.

10.6.2 Free Basic Services: basic social services package for indigent households

The social package assists residents that have difficulty paying for services and are registered as indigent households in terms of the Indigent Policy of the Municipality. Only registered indigents qualify for the free basic services.

A summary of the free basic services package is set out below:

- All registered indigents, including consumers in the rural areas, will receive 6 kl of water per month fully subsidised.
- All registered indigents, including consumers in the rural areas, will only be charged a flat rate for Water and Sanitation consumption and not a step tariff.

The cost of the social package of the registered indigent households is largely financed by national government through the local government equitable share received in terms of the annual Division of Revenue Act.

10.7 DEBT RELIEF PROGRAMME AND FREE BASIC WATER SERVICES

The municipality has a initiated a debt relief programme for the 2022/2023 financial year in alignment to the Free Basic Services and Prepaid Meter Programmes and it entails the following:

Table 10-6 JGDM Debt Relief/Incentive Programme

No.	Type of consumer	Incentive
1.	Registered indigent households	100% Write-off
2.	Residential	Once-off discount of up to 50%, on outstanding date as at 30 June 2022
3.	Businesses	Once-off discount of up to 60%, on outstanding date as at 30 June 2022
4.	NPOs and churches	100% Write-off
5.	Consumers with up to date accounts	Additional 3kl free until 30 June 2023

These are available at all the JGDM Billing Office but a number of conditions that are applicable to the municipal offerings in Table 10-6 above, and these include:

- Discount will only apply if you have a prepaid water meter or applied for one
- Discount is only available until 30 June 2023
- Arrears may be paid off over a period not exceeding 30 June 2023 (must be prearranged)
- Discount will only apply once consumer portion has been paid in full.
- Free 3kl water subsidy will only apply to those who have kept their account up to date for the last 36 months and it must be claimed from the Billing Offices.

Furthermore, the municipality is implementing a Free Basic Water Services in alignment to its Indigent Policy and applicable legislation wherein the Indigent Households are given 6000 litres per month for free and thereafter the current municipal water tariffs apply (i.e. R17 per 1000 litres).

10.8 CUSTOMER PAYMENT OPTIONS

The Joe Gqabi District Municipality offers six different ways a customer can pay their water and sanitation bill:

1. In person over the counter;
2. ATM and EFT payments; and

3. Online Prepaid Water purchase: http://www.utilitypay.co.za/onlinepurchase/buyprepaid

10.8 FINANCIAL PROFILE CHALLENGES AND RISKS

- Old infrastructure causing leaks and leaving consumers without water, thus need for frequent repairs
- Indigent households using more water than subsidized, not paying, refusing to change to prepaid meters despite incentive offered of debt writing-off.
- Unmetered households that use a lot of water without fear of consequences and refusing to accept prepaid meter
- Lack of knowledge amongst communities to take ownership of leaks and payment
- Vandalism of meters leading to decision to install meters inside properties
- Institution ran out of prepaid meters
- JGDM does not have a Credit Control Policy
- Prepaid meters operational challenges including going blank
- Inadequate capacity in dealing with by passed water meters

10.9 FINANCE OBJECTIVES AND STRATEGIES

- Improve the municipal revenue collection;
- Conduct frequent public participation to enhance consumer understanding of JGDM processes and initiatives
- Consider appointment of a service provider to collect old arrear debt on behalf of the Municipality
- The District should explore ways of linking water accounts with Eskom and Local municipalities to recover debt owed by consumers;
- Develop a strategy for revenue collection in rural areas and update the JGDM Revenue Enhancement Strategy;
- Facilitate the extension of the prepaid meter installation programme to all properties with no meters within the district;
- Contract Management and Project Management working closely to close any gaps in managing infrastructure projects; and
- Review of the Credit Control and Debt Collection Policies in order to achieve a higher collection rate.

SECTION 11: WATER SERVICES OBJECTIVES AND STRATEGIES

The water services objectives and strategies presented below were derived from the water services situational analysis as summarized in Section C: Water Services Existing Needs Perspective and presents the 5-year Water Services objectives and strategies as established in the WSA's WSDP.

We are still awaiting the targets that the department will be chasing for the next five years.

No.	Objective/ Strategy	Key Performance Indicator	Baseline (2021/2022)	WSDP Year 1 FY2022/23 Target	WSDP Year 2 FY2023/24 Target	WSDP Year 3 FY2024/25 Target	WSDP Year 4 FY2025/26 Target	WSDP Year 5 FY2026/27 Target
Socio-economic development profile								
	Expanded Public Works Programme (EPWP)	Number of Expanded Public Works Programme (EPWP) opportunities created	6 034	1000	TBD annually	TBD annually	TBD annually	TBD annually
	SETA and EPWP funding used to train apprentices and create other external training opportunities. Training apprentices for vacant posts in the administration & JGDM	Number of external trainee and bursary opportunities (excluding apprentices)	158	158	168	175	190	200
Water Services Institutional Arrangement								
	Develop and adopt a new WSDP every 5 years	New WSDP every 5 years	busy with the new Draft WSDP	Annual WSDP review at Quarter 4	Annual WSDP review at Quarter 4	Annual WSDP review at Quarter 4	Annual WSDP review at Quarter 4	Annual WSDP review at Quarter 4

	Compile and submit to DWS annual WSDP implementation- and water services audit report	Date submitted and email	N/A	October every year	October every year	October every year	October every year	October every year
	Extract and incorporate WSDP objectives and projects into IDP / SDBIP	Date completed	Achieved	September every year	September every year	September every year	September every year	September every year
	Comprehensive and updated municipal staffing strategy	Updated & council-approved organogram	Draft organogram	Final council approved OD project	N/A	N/A	N/A	N/A
	Training staff to improve operational efficiency	Council approved Work Skills Plan (WSP)	2021/2022 WSP	Number of Process controllers, artisans & general workers	Number of Process controllers, artisans & general workers	Number of Process controllers, artisans & general workers	Number of Process controllers, artisans & general workers	Number of Process controllers, artisans & general workers
	HR, Talent Management, Skills Development programme (Integrated Talent management Approach)	Percentage vacancy rate	11.50%	≤ 7%	TBD annually	TBD annually	TBD annually	TBD annually
		Percentage budget spent on implementation of WSP	103.60%	95%	TBD annually	TBD annually	TBD annually	TBD annually
		Percentage OHS incidents reported	1.80%	≤ 5%	TBD annually	TBD annually	TBD annually	TBD annually
		Percentage OHS investigations completed	New	100%	TBD annually	TBD annually	TBD annually	TBD annually
	Water Services Provision SLA	Annual Approved SLA	N/A	Annual SLA by all directors	Annual SLA by all directors	Annual SLA by all directors	Annual SLA by all directors	Annual SLA by all directors
Service Levels								
	Service Delivery Programme in Informal Settlements	Number of water service points (taps) provided	919	600	700	700	700	700
		Number of sanitation service points	3 058	2 800	2 600	2 500	2 500	2 500

		(toilets) provided						
Water Resources								
	Volume water treated	Per capita water consumption	≤ 210	TBD	TBD	TBD	TBD	TBD
	Compliance to DWS Standards	Percentage compliance with drinking water quality standards	99.67%	98%	TBD annually	TBD annually	TBD annually	TBD annually
	Compliance to DWS Standards	Number of WWTWs with >= 90% compliance with DWS water quality requirements	new	12	TBD annually	TBD annually	TBD annually	TBD annually
	Compliance to DWS Standards	Percentage compliance with 4 critical DWS effluent standards	n/a					
Water Services Infrastructure Management								
	Annual Maintenance required	Percentage spend on repairs and maintenance	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
		Metres of water reticulation mains replaced this year	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
		Metres of sewer reticulation mains replaced this year	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
	Investment in Infrastructure in water and sanitation infrastructure	Rand value of capital invested – water (new)	TBC	TBD annually	TBD annually	TBD annually	TBD annually	TBD annually
		Rand value of capital invested – (new)	TBC	TBD annually	TBD annually	TBD annually	TBD annually	TBD annually
Water Conservation and Water Demand Management								
	Implementation of WCWDM Strategy	Prepaid Meter installation	TBC	TBD annually	TBD annually	TBD annually	TBD annually	TBD annually
		Installation of zonal meters	TBC	TBD annually	TBD annually	TBD annually	TBD annually	TBD annually
Associated Services								
1.	To maintain the status quo of on water and	Number of public amenities and institutions	n/a	n/a	n/a	n/a	n/a	n/a

	sanitation provision for all hospitals and health centres and schools	within region with/out access to water supply and sanitation						
2.	Conduct a Customer Satisfaction Survey	1 Customer Satisfaction Survey per LM	0	3	3	3	3	3
Customer Care Services								
1.	Annual Community Satisfaction Survey	Score of 1 – 5 (Residents)	TBC	To be done annually	To be done annually	To be done annually	To be done annually	To be done annually
2.	Annual Community Satisfaction Survey	Score of 1 – 5 (Residents)	TBC	To be done annually	To be done annually	To be done annually	To be done annually	To be done annually
3.	Reduce illegal connections, water losses and improve Prepaid Meter uptake	No of consumer water & sanitation education and awareness to areas worst affected by illegal connections, encroachment & water losses	TBC	TBD	TBD	TBD	TBD	TBD
4.	Reduce sewer blockages and overflow to storm water system through technical and educational interventions	No. of technical and education (utilising EPWP resources) interventions to 10 worst affected areas	TBD	TBD	TBD	TBD	TBD	TBD
Financial Profile								
	Financial management programme	Percentage spend of capital budget	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
	Financial management programme	Rand value of capital invested in engineering infrastructure (growth, refurbishment and replacement of Water & Sanitation infrastructure)	TBC	TBD annually	TBD annually	TBD annually	TBD annually	TBD annually

	Financial management programme	Percentage of Operating Budget spent	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
	Collection of 50% Revenue	Implement communication / education / media campaign to ensure customer understanding of why payments are required	50	10	TBD annually	TBD annually	TBD annually	TBD annually
	Financial management programme	Revenue collected as a percentage of billed amount (Water)	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
		Revenue collected as a percentage of billed amount (Sewerage)	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
		Percentage of water meters read on a monthly basis	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
	Financial management programme	Percentage of assets verified	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
		Percentage Internal Audit findings resolved	TBC	TBC	TBD annually	TBD annually	TBD annually	TBD annually
Project Development								

Table 12.2 JGDM 2022/2023 Water Services SDBIP

STRATEGIC OBJECTIVE	PROGRAMME	KEY PERFORMANCE INDICATOR	BASELINE (JUNE 2022)	ANNUAL TARGET	QUARTERLY TARGETS				AUDIT EVIDENCE	RESPONSIBLE PERSON
					QRT 1 Plan	QRT 2 Plan	QRT 3 Plan	QRT 4 Plan		
Provide access to basic services	SD01: Develop and maintain water and sanitation infrastructure	% compliance with SANS 241 for drinking water quality	95%	95%	N/A	N/A	N/A	95%	IRIS Report	Manager: Water Services Provision
		% reduction on network water losses (unaccounted for water)	3%	3,00%	N/A	N/A	N/A	3%	Meter reading calculation	Manager: Water Services Provision
		Number of process audits undertaken to assess water quality and compliance	New Indicator	1	N/A	N/A	N/A	1	1. Water compliance audit report submitted to Mayco	Manager: Water Services Provision
		% of construction progress completed on Refurbishment of Steynburg and Ugie WWTWs and associated infrastructure by June 2022	New Indicator	99% of construction progress completed on refurbishment of Barkly East, Aucamp and Ugie WTWs and associated infrastructure by June 2022.	N/A	N/A	N/A	99% progress achieved as per the approved works programme and certified by the PSP's progress report	Professional Service Provider (PSP) Progress Report	Manager: Water Services Provision

		% of Construction Progress completed for the construction of clear water storages at Aliwal North and Maclear by June 2022	New Indicator	99% progress achieved as per the approved works programme and certified by the PSP the progress report	N/A	N/A	N/A	99% progress achieved as per the approved works programme and certified by the PSP the progress report	Professional Service Provider (PSP) Progress Report.	Manager: Water Services Provision
		% of Progress for the implementation of 202122 WCDM BP by June 2022	New Indicator	60% of Construction Progress Completed by June 2022	N/A	N/A	N/A	60% progress achieved as per the approved Business Plan and certified by the PSP the progress report	Professional Service Provider (PSP) Progress Report	Manager: Water Services Provision
		% of Construction Progress completed for the Refurbishment of Ugie and Rhodes WTWs by June 2022	New Indicator	90% of Construction Progress completed for refurbishment Rhodes and Ugie WTW by June 2022	N/A	N/A	N/A	90% of Construction Progress completed by June 2022	Professional Service Provider (PSP) Progress Report.	Manager: Water Services Provision

		% of Construction Progress completed for the Rudimentary water supply schemes as per the BP by June 2022	New Indicator	90% of Construction Progress completed for the Rudimentary water supply schemes as per the BP by June 2022	N/A	N/A	N/A	90% of Construction Progress completed for the Rudimentary water supply schemes as per the BP by June 2022	Professional Service Provider (PSP) Progress Report.	Manager: Water Services Provision
		Frequency of sewer blockages per 100Kms of pipeline	New Indicator	120,00			120,00		1.Time sheet	Manager: Water Services Provision
		Frequency of water mains failures per 100Kms of pipeline	New Indicator	120,00			120,00		1.Time sheet	Manager: Water Services Provision
Ensure sound and effective financial management and reporting	**FM01: Comply with all statutory financial management and reporting requirements**	% of departmental budget actually spent	1	1	0,1	0,25	0,3	0,35	Income and expenditure report	Manager: Water Services Provision
		% expenditure of Water Services Infrastructure Grant (WSIG)	1	1	0,1	0,25	0,3	0,35	Income and expenditure report	Manager: Water Services Provision
Improve human resource	**ID01:Effectivel y empower and develop**	Number of internships opportunities created (unemployed graduates)	25	25	N/A	N/A	N/A	25	1. Report to Mayco	Director: Corporate Services

capacity and potential	**skills base within the District**	Number of learnerships opportunities created.	23	23	N/A	N/A	N/A	23	1. Report to Mayco	Director: Corporate Services
		Review Organogram	2022/23 FY organogram approved by Council	2023/24 FY organogram approved by Council	N/A	N/A	Draft reviewed organogram tabled before Council	Reviewed Organogram approved by Council	1. Approved Organogram 2.Council Resolutions	Director: Corporate Services
Provide access to basic services	**SD03: Expand and fast-track provision of universal access to basic services**	% of households earning less than R1100 per month with access to free basic services (water and sanitation the Municipality is providing more than a threshold)	100% of registered households (Indigents)	100% of registered households (Indigents)	N/A	N/A	100% of registered households (Indigents)	N/A	1. Billing report	Director Finance
		Conclude agreement on indigent review cooperation between the DM and LMs	Agreement on indigent review cooperation between the DM and LMs signed	Agreement on indigent review cooperation between the DM and LMs signed	N/A	Agreement on indigent review cooperation between the DM and LMs signed	N/A	N/A	1. Signed agreement	Director Finance
Ensure sound and effective financial management and reporting	**FM02: Implement revenue and collection strategy enhancement initiatives**	Number of households in the municipal area registered as indigent								Director Finance
		% of total water connections metered						Report		Director Finance

		% of the municipalitty''s operating budget spent on indigent relief for free basic services	New Indicator	1	N/A	0,25	0,75	1	1.Billing report 2.Indigent register 3.Report to MayCo	Director Finance
		% of grants budget spent (Finance)	1	1	0,1	0,25	0,75	1	1. Income and expenditure report	Director Finance
		% of billed revenue collected	1	0,3	N/A	N/A	N/A	0,3	1.Billing report 2.Report to Mayco	Director Finance
		Number of new Installations of pre-paid meter readers	2000 throughout the District	2000 throughout the District	N/A	N/A	N/A	2000	1. Close out report 2. Report to Mayco	Director Finance
		Develop Revenue collection Strategy for urban areas	New Indicator	Revenue Collection Strategy for urban areas developed and approved by Council	N/A	N/A	N/A	Revenue Collection Strategy for urban areas developed and approved by Council	1. Revenue Collection Strategy 2. Council Resolution	Director Finance
		% of non-revenue water	New Indicator					Report		Director Finance
		% reduction of water and sanitation services debt	0,4	0,4	N/A	N/A	N/A	0,4	1. Report to Mayco	Director Finance

		Percentage of call-outs responded to within 24 hours (sanitation/wastewater)	New indicator	1	0,15	0,3	0,25	0,3	1.Time sheet	Director: Institutional Support & Advancement
		Percentage of call-outs responded to within 24 hours(water)	New indicator	1					1.Time sheet	Director: Institutional Support & Advancement
		Review customer and Service Delivery Charter	New Indicator	Service Delivery Charter reviewed and submitted to Council	N/A	N/A	N/A	Service Delivery Charter reviewed and submitted to Council	1. Reviewed Service Delivery Charter 2. Council Resolution	Director: Institutional Support & Advancement
Provide access to basic services	**SD01: Develop and maintain water and sanitation infrastructure**	Number of District Water forum meetings	2	2	N/A	1	N/A	1	1.Minutes 2.Attendance registers	Director: Technical Services
		Review WSDP	WSDP reviewed and approved by Council	WSDP reviewed and approved by Council	N/A	N/A	N/A	WSDP reviewed and approved by Council	1. Approved WSDP 2.Council resolutions	Director: Technical Services
	SD03: Expand and fast-track the provision of universal access to basic services	% of households with access to basic level of water	0,746	0,746	N/A	N/A	N/A	0,746	1. Calculation Report	Director: Technical Services
		% of households with access to basic level of sanitation	0,96	0,96	N/A	N/A	N/A	0,96	1. Calculation Report	Director: Technical Services

		Number of new households provided with potable water connection	200	500	N/A	N/A	N/A	500	1. Happy letters 2.Completion Certificate	Director: Technical Services
		Number of new households provided with sanitation service (toilets)	2000	1675	N/A	N/A	N/A	1675	1. Happy letters 2.Completion Certificate	Director: Technical Services
		Number of infrastructure status quo reports compiled per LM	12	12	3	3	3	3	1. Report to Top Management 2.Report to Standing Committee	Director: Technical Services
		Develop 3-year Infrastructure Plan	3-year Infrastructure Plan approved by Council	3-year Infrastructure Plan approved by Council	N/A	N/A	N/A	3-year Infrastructure Plan approved by Council	1. Council Resolution 2. 3 year Infrastructure Plan	Director: Technical Services
	SD03: Expand and fast-track the provision of universal access to basic services	% of Progress for Water Supply Infrastructure completed for Herschel Pipeline	50% of Water Supply Infrastructure Completed for Herschel Pipeline by June 2021	100% of Water Supply Infrastructure Completed for Herschel Pipeline by June 2022	70% progress achieved as per the approved works programme and certified by the PSP the progress repor	80% progress achieved as per the approved works programme and certified by the PSP the progress report	90% progress achieved as per the approved works programme and certified by the PSP the progress report	100% progress achieved as per the approved works programme and certified by the PSP. Projecct Practically Complete	Professional Service Provider (PSP) Progress Report	Director: Technical Services

		Initiate procurement process for PSP and construction services	New Indicator	Procurement Process for PSP and construction services initiated by June 2022	Bid Specification report submitted to the BSC	N/A	N/A	N/A	Practical CompletiOn Certifcates	Director: Technical Services
		Approval of Final Project Design and initiate procurement of construction services process	Sub-consultants for Survey Services, ISD services, Geohydrologic al Services, Geotechnical Services, OHS services appointed by June 2021	Final Project Design approved and Procurement of Construction Services process initiated by June 2022	N/A	N/A	N/A	Final Project Design approved	1. Appointment Letters for sub-consultants,	Director: Technical Services
		% of Construction Progress completed for the Development of Burgersdorp Water Treatment Works (WTW) by June 2022	50% of Construction Progress completed for the Development of Burgersdorp Water Treatment Works (WTW) by June 2021	100% of Construction Progress completed for the Development of Burgersdorp Water Treatment Works (WTW) by June 2021	90% of Construction Progress completed for the Development of Burgersdorp Water Treatment Works (WTW)	100% of Construction Progress completed for the Development of Burgersdorp Water Treatment Works (WTW) by December 2021	N/A	N/A	Professional Service Provider (PSP) Progress Report	Director: Technical Services

		% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement) by June 2022	30% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement) in June 2021	100% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement)	50% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement)	70% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement)	90% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement)	100% of Construction Progress completed for the Maclear Water Treatment and Distribution Upgrade (AC Pipe Replacement)	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		Appoint Professional Service Provider by June 2022	Professional Service Provider Appointed by June 2021	Appoint Professional Service Provider by June 2022	Professional Service Provider Appointed by June 2022	N/A	N/A	N/A	1. Bid Specification Item submitted to BSC 2. Tender Advert 3.Appointment Letter	Director: Technical Services
		Appoint service provider for Construction services by June 2022	Service Provider for Construction Services appointed by June 2021	Appoint service provider for Construction services by June 2022	Appoint service provider for Construction services by June 2022	N/A	N/A	N/A	Letter of Appointment for construction services	Director: Technical Services
		Number of new households provided with sanitation service (toilets senqu rural)	2000 new households provided with sanitation	200	N/A	N/A	N/A	2000	1. Happy Letters	Director: Technical Services

			service (toilets)							
		Number of new households provided with sanitation service (toilets Elundini rural)	2000 new households provided with sanitation service (toilets)	2000	N/A	N/A	N/A	2000	1. Happy Letters	Director: Technical Services
		% of construction progress completed on development of Jamestown Sanitation Infrastructure	20% of Construction Progress Completed on development of Jamestown Sanitation Infrastructure by June 2021	80% of Construction Progress Completed on development of Jamestown Sanitation Infrastructure	40% of Construction Progress Completed on development of Jamestown Sanitation Infrastructure	50% of Construction Progress Completed on development of Jamestown Sanitation Infrastructure	70% progress achieved as per the approved works programme and certified by the PSP the progress report	80% progress achieved as per the approved works programme and certified by the PSP the progress report	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		% of construction progress completed on development of Maclear Bulk Sanitation Infrastructure	100% of construction progress completed on development of Maclear Bulk Sanitation Infrastructure by June 2021	70% of construction progress completed on development of Maclear Bulk Sanitation Infrastructure by June 2022	30% progress achieved as per the approved works programme and certified by the PSP the progress report	40% progress achieved as per the approved works programme and certified by the PSP the progress report	50% progress achieved as per the approved works programme and certified by the PSP the progress report	70% progress achieved as per the approved works programme and certified by the PSP the progress report	1. Professional Service Provider (PSP) Progress Report 2. Completion Cert	Director: Technical Services

		% of construction progress completed on development of Maclear Bulk Sanitation Infrastructure	20% of Construction Progress Completed on development of Bulk Sanitation Infrastructure for Maclear by June 2021	70% of Construction Progress Completed on development of Bulk Sanitation Infrastructure for Maclear by June 2022	30% progress achieved as per the approved works programme and certified by the PSP the progress report	40% progress achieved as per the approved works programme and certified by the PSP the progress report	50% progress achieved as per the approved works programme and certified by the PSP the progress report	70% progress achieved as per the approved works programme and certified by the PSP the progress report	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		Appoint Professional Service Provider by June 2021	New Indicator	Professional Service Provider Appointed by June 2021	N/A	N/A	N/A	Professional Service Provider Appointed	1. Bid Specification Item submitted to BSC 2. Tender Advert 3.Appointment Letter	Director: Technical Services
		% of Construction Progress completed for the Development of Burgersdorp Wastewater Treatment Works (WWTW)	80% of Construction Progress completed for the Development of Burgersdorp Wastewater Treatment Works (WWTW) by June 2021	100% of Construction Progress completed for the Development of Burgersdorp Wastewater Treatment Works (WWTW) by	100% of Construction Progress completed for the Development of Burgersdorp Wastewater Treatment Works (WWTW)	N/A	N/A	N/A	Professional Service Provider (PSP) Progress Report	Director: Technical Services

				June 2022						
		Secure Funding to complete Implementation Ready Study (IRS) in accordance with Department of Water and Sanitation (DWS) requirements	Funding to complete Implementation Ready Study (IRS) in accordance with Department of Water and Sanitation (DWS) requirements secured by June 2021	Implementation Ready Study (IRS) approval facilitated with Department of Water and Sanitation (DWS) by June 2022	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	1. Confirmation Letter of funding secured submitted to DWS	Director: Technical Services
		Secure Funding to complete Implementation Ready Study (IRS) in accordance with Department of Water and Sanitation (DWS) requirements by June 2022	New Indicator	Implementation Ready Study (IRS) approval facilitated with Department of Water and Sanitation (DWS) by June 2022	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	Communication sent to DWS for update on IRS approval	1. Confirmation Letter of funding secured submitted to DWS	Director: Technical Services
		Number of water tanks supplied and installed	procurement process for supply and installation of water tanks initiated by	75 water tanks supplied and installed	20 water tanks supplied and installed	40 water tanks supplied and installed	70 water tanks supplied and installed	N/A	1. Bid Specification Item 2. Proof of submission to SCM	Director: Technical Services

			June 2021							
		Number of water tanks connected to suistainable water network	New Indicator	75 Tanks Connected to sustainable water network by June 2022	N/A	N/A	N/A	75 Tanks Connected to sustainable water network	Progress Report	Director: Technical Services
		Initiate the procurement process for Water Curting Service	Procurement process for Water Curting Services initiated by June 2021	Procurement process for Water Curting Services initiated by June 2022	N/A	Procurement process for Water Curting Services initiated	N/A	Procurement process for Water Curting Services initiated	1. Bid Specification Item 2. Proof of submission to SCM	Director: Technical Services
		% of construction progress completed on Senqu Rural Water Supply: Work Package 1	Senqu Rural Water Network Extension: Quick Wins	10% of construction progress completed on Senqu Rural Water Supply: Work Package 1 by June 2022	N/A	N/A	N/A	10% of construction progress completed on Senqu Rural Water Supply: Work Package 1 by June 2022	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		Approved Design Report for Senqu Rural Work Package 2	Senqu Rural Water Network Extension: Quick Wins	Design Report for Senqu Rural Work Package 2 approved by June 2022	N/A	N/A	N/A	Design Report for Senqu Rural Work Package 2 approved by June 2022	Approved Design Report	Director: Technical Services

		% of construction progress completed on Senqu Rural Water Supply: Work Package 3	Senqu Rural Water Network Extension: Quick Wins	10% of construction progress completed on Senqu Rural Water Supply: Work Package 3 by June 2022	N/A	N/A	N/A	10% of construction progress completed on Senqu Rural Water Supply: Work Package 3 by June 2022	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		Approved Design Report for Senqu Rural Work Package 5	Senqu Rural Water Network Extension: Quick Wins	Design Report for Senqu Rural Work Package 5 approved by June 2022	N/A	N/A	N/A	Design Report for Senqu Rural Work Package 5 approved by June 2022	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		% of construction progress completed on Senqu Rural Water Supply: Work Package 6	Senqu Rural Water Network Extension: Quick Wins	10% of construction progress completed on Senqu Rural Water Supply: Work Package 6 by June 2022	N/A	N/A	N/A	10% of construction progress completed on Senqu Rural Water Supply: Work Package 6 by June 2022	Professional Service Provider (PSP) Progress Report	Director: Technical Services
		Number of new water connections	New Indicator	Report quarterly						Director: Technical Services
		Number of new sewer connections	New Indicator	Report quarterly						Director: Technical Services

		Total number of Ventilation Improved Pit Toilets (VIPs)								Director: Technical Services
		Approved Design Report for Senqu Rural Work Package 7	Senqu Rural Water Network Extension: Quick Wins	Design Report for Senqu Rural Work Package 7 approved by June 2022	N/A	N/A	N/A	Design Report for Senqu Rural Work Package 7 approved by June 2022	Professional Service Provider (PSP) Progress Report	Director: Technical Services
Facilitate and implement job creation and poverty alleviation initiatives	**LED01: Implement and expand implementation of EPWP and other job creation initiatives**	Number of jobs created through local economic development initiatives including capital projects	920	600	150	150	150	150	1. List of participants 2. MIS Report from DPW 3.Report to MayCo	Director: Technical Services
Ensure sound and effective financial management and reporting	**FM01: Comply with all statutory financial management and reporting requirements**	% of capital budget actually spent on capital projects identified in the IDP	100%	100%	15%	40% (accumulative)	70% (accumulative)	100%	1. Income and expenditure report	Director: Technical Services
		% of departmental operational budget actually spent	100%	100%	25%	25%	25%	25%	1. Income and Expenditure report	Director: Technical Services
		% expenditure of MIG in line with Business Plans & draw down	100%	100%	18%	28%	22%	32%	1.Income and expenditure report	Director: Technical Services

SECTION 12 PROJECT DEVELOPMENT

The municipal planning and development of water and sanitation infrastructure development capital projects is located within the Technical Services Department of the district. The Project Management Unit (PMU) is responsible for the capital funded infrastructure development projects funded from a number of grants funding from the fiscus and external funders.
The Operational related projects for the refurbishment, renewal and expansion of the existing infrastructure are undertaken by the Water Services Provision section as it is deemed as an extension of its Operation and Maintenance function.

12.1 WATER SERVICES DEVELOPMENT PROJECTS

The comprehensive water and sanitation infrastructure development needs will be appropriately presented in the Water Services Development Plan as follows:

- Resource
- Bulk
- Reticulation
- Non-technical

12.2 CURRENT MAJOR PROJECTS

An ideal capital programme has a healthy mix between the following capital programmes

- Backlog eradication
- Renewals
- Refurbishments
- Catch-up programme on deferred maintenance

Due to historical factors, backlogs eradication are a dominant component of the capital programme. The projects will be categorised in short and medium term to long term projects.. Below is a list of Council approved 3-year MTEF Infrastructure Development projects for the 2022/2023 municipal financial year onwards:

Table 12- 1 Water Services Infrastructure Budget for the MTEF (2022/23 – 2024/25)

	2022/2023	2023/2024	2024/2025
Municipal Infrastructure Grant	180 246 000	188 638 000	197 565 000
Water Services Infrastructure Grant	60 000 000	38 000 000	60 610 000
Regional Bulk Infrastructure Grant	15 000 000	20 000 000	40 000 000
Expanded Public Works Programme	1 314 000	0	0
	256 560 000	**246 638 000**	**298 175 000**

As evident in Table 1 above, the Joe Gqabi District Municipality has been allocated an overall R801million over the MTREF for water supply and sanitation services infrastructure development and refurbishment as per the Government Gazette Division of Revenue Bill.

The budget for 2022/2023 is R256 650.00 whilst the next financial year allocation is reduced by almost R10million to R246million in the 2023/24 with a substantial reduction of R22m in the WSIG and this is concern considering the old and dilapidated state of existing water supply and sanitation services infrastructure.

The last year of the MTREF sees a budget increase of just over R51m with a large portion going towards the refurbishment of the existing municipal infrastructure and another R20million for the Regional Bulk Infrastructure Grants project.

Table 12-2 MTEF MIG 2022/2023 – 2024/2025 Three-Year Infrastructure Development Plan

MUNICIPAL INFRASTRUCTURE GRANT	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25
Sterkspruit: Upgrading of WTW and Bulk Lines	-	-	-	187 686 750.00
Elundini Rural Water Programme (ORIO)	17 500 000.00	7 500 000.00	20 000 000.00	-
Jamestown Bucket Eradication and Sanitation: Phase 2	25 000 000.00	22 402 591.00	2 002 404.00	-
Aliwal North Water Treatment Works Holding Dams	18 000 000.00	7 000 000.00	23 000 000.00	-
Provision of Sanitation Infrastructure for Ugie: Phase 1	18 000 000.00	10 000 000.00	20 000 000.00	-
Maclear Water Treatment & Distribution Upgrade (AC Pipe Replacement)	10 000 000.00	10 000 000.00	-	-
Senqu Rural Water Supply: Work Package 1	8 000 000.00	7 000 000.00	8 000 000.00	-
Senqu Rural Water Supply: Work Package 2	8 000 000.00	7 000 000.00	8 000 000.00	-
Senqu Rural Water Supply: Work Package 3	8 000 000.00	7 000 000.00	8 000 000.00	-

Senqu Rural Water Supply: Work Package 4	8 000 000.00	-	14 000 000.00	-
Senqu Rural Water Supply: Work Package 5	8 000 000.00	7 000 000.00	8 000 000.00	-
Senqu Rural Water Supply: Work Package 6	8 000 000.00	7 000 000.00	8 000 000.00	-
Senqu Rural Water Supply: Work Package 7	8 000 000.00	7 000 000.00	8 000 000.00	-
Lady Grey Water Supply: New Trunk and Reticulation: Water Mains for Kwezi-Naledi & Transwilger	6 000 000.00	-	10 000 000.00	-
Aliwal North Asbestos Pipe Replacement	9 233 650.00	-	10 000 000.00	-
Telle River Bulk Water Infrastructure	1 500 000.00	-	2 203 696.00	-
Aliwal North Bulk Water Infrastructure for Housing Development	10 000 000.00	-	10 000 000.00	-
Maclear upgrading of bulk water services	-	-	20 000 000.00	-
Maclear upgrading of bulk sanitation	-	60 331 059.00	-	-
TOTAL	**171 233 650.00**	**159 233 650.00**	**179 206 100.00**	**187 686 750.00**

The MIG budget allocation for the 2024/2025 financial year has been listed under the "Sterkspruit: Upgrading of WTW and Bulk Lines" project due to the unavailability of the breakdown per project for the relevant financial year. The breakdown will be listed upon receipt of the updated draft implementation plan for the 2024/2025 financial year. Changes from the draft budget are as result of changes in the infrastructure implementation plan.

The district experienced an satisfactory performance in the implementation of the infrastructure projects in the 2021/2022 municipal financial year resulting with the 100% expenditure of the MIG findings. There are a number of projects that have been completed during the past financial year and have been handed over to the municipality to operate and maintain.
The commencement of the construction phase of the long-awaited Elundini Rural Water Supply project will greatly enhance the reduction of "access to water" backlogs in the villages of Maclear, Mt Fletcher and Ugie.

However, there are still a number of projects that have not performing so well and have greatly gone beyond their respective "Estimated Completion Dates" and this has implications for both the municipality and the intended beneficiaries.

Table 12-3 MTEF RBIG allocation for JGDM

REGIONAL BULK INFRASTRUCTURE GRANT (RBIG)	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25
1. Sterkspruit Regional Wastewater Treatment Works	15 000 000.00	15 000 000.00	20 000 000.00	40 000 000.00
TOTAL	**15 000 000.00**	**15 000 000.00**	**20 000 000.00**	**40 000 000.00**

Joe Gqabi DM has been allocated a total of R75milliion under the Regional Bulk Infrastructure Grant (RBIG) which is managed by the Department of Water and Sanitation (DWS) according to the Division of Revenue Bill. The grant is primarily dispensed for the development of bulk water and sanitation infrastructure. The sole funded project of the municipality is entails the construction of a new wastewater treatment works and bulk sewer network for the town of Sterkspruit to improve the management of wastewater in this fast growing town which is the main economic hub of the Senqu Local Municipality.

The second RBIG project, Zachtevlei Dam in Lady Grey, is not funded in the MTEF budget even though it has undergone all the planning and feasibility stages as required by the grant framework. The project involves the development of a primary water source for the town of Lady Grey in the form of a dam and bulk water supply infrastructure in order to facilitate economic and social development projects in the town. The Implementation Readiness Study (IRS) has been completed and submitted to DWS for consideration and approval for the commencement of construction.

The Sterkspruit bulk sanitation project should be moving over to the construction phase and will require intense monitoring to ensure that it is timeously and effectively implemented as the department is becoming stricter in poor performance and under-expenditure due to the fierce competition for budget from other municipalities.

Table 12.4 WSIG budget allocation of JGDM for MTEF

WATER SERVICES INFRASTRUCTURE GRANT (WSIG)	Draft Budget 2022/23	Final Budget 2022/23	Final Budget 2023/24	Final Budget 2024/25
1. Refurbishment of WTWs	15 000 000.00	15 000 000.00	-	-
2. District Wide Refurbishment of WWTWs	5 000 000.00	5 000 000.00	-	-
3. Augmentation of Clear Water Storage:	15 000 000.00	15 000 000.00	-	-
4. District Wide Water Conservation and Demand Management	25 000 000.00	25 000 000.00	38 000 000.00	60 610 000.00
TOTAL	**60 000 000.00**	**60 000 000.00**	**38 000 000.00**	**60 610 000.00**

The municipality has been allocated R158 million over the MTEF from the Department of Water and Sanitation's Water Services Infrastructure Grant (WSIG whose objective is to assist water services authorities to reduce water and sanitation backlogs. The budget allocation for the 2023/2024 and 2024/2025 has been listed under the District Wide WCWDM project due to the unavailability of the breakdown per project for the applicable municipal financial years. The breakdown of the outer years will be listed upon approval of the relevant year's business plans by DWS.

Through the grant, the department provides additional funding that empowers the municipalities to:

- Facilitate the planning and implementation of various water and on-site sanitation projects to accelerate backlog reduction and enhance the sustainability of services especially in rural municipalities
- Provide interim, intermediate water and sanitation supply that ensures provision of services to identified and prioritised communities, including through spring protection and groundwater development
- Support municipalities in implementing water conservation and water demand management (WC/WDM) projects

The funding supplements the municipality's operations and maintenance budgets from the Equitable Share especially the investment required to enhance the operational capacity and efficiency of the existing water supply and sanitation services infrastructure.

The ongoing difficulties in the national and local economy will have a significant impact on the availability and magnitude of the funding for infrastructure development. The district would be wise to improve its spending, project and contracts management in order to ensure that it receives best value for the funds allocated.

12.3 Integrated Water and Sanitation Services Master Plan

The district has received assistance from the Development Bank of Southern Africa (DBSA) for the compilation of a single municipal wide master plan by the end of the 2020/2021 financial year. The process involved the consolidation of the numerous town-specific master plans and

the integration of plans from the infrastructure developed during the past couple of years. Some of the main plans are covered under the water resources section of this document. The intention with a multi-year plan that takes a 10-year view is to understand the full financial needs and the impact on the capital plan. **Annexure E** is a list of all the WSDP projects which is a comprehensive list of capital and operational water and sanitation projects that the municipality has identified by the municipality in order o address the water supply and sanitation services backlogs and enhance the existing infrastructure.
The municipality has been able to draw projects from this master plan with a number of them at different phases of implementation through the MIG and WSIG.

The post of EPWP Coordinator and a new Project Manager have also been appointed in the PMU Section during 2021/2022 municipal financial year and this will greatly enhance the project management capacity of the municipality.

11.4 PROJECT DEVELOPMENT CHALLENGES AND RISKS

- The inadequate capacity for project management and monitoring, together with documenting and reporting of the jobs created as per the requirements of EPWP;
- Poor performance and workmanship on long-standing projects;
- Under-expenditure on the water and infrastructure grants (MIG and WSIG); and
- A number of complaints have been received about the municipal infrastructure development and maintenance activities that result in damaged road surfaces and incomplete projects.

11.5 PROJECT DEVELOPMENT STRATEGIES AND OBJECTIVES

- The district will explore external funding sources to leverage the available resources for the development of water and sanitation infrastructure;
- JGDM will endeavour to ensure that there is an agreement with the local municipalities for a process that ensures that during and post-water services infrastructure development and maintenance activities, and all the damaged road surfaces are restored to their original condition; and
- Effective monitoring and evaluation of the development of water and sanitation infrastructure projects.

SECTION 13: CONCLUSION

The taking over of the water services provision function from the local municipalities has required the municipality to acquire adequate and competent personnel at various levels in order to discharge this accountability effectively and develop processes and procedures to enhance the delivery of its mandate. It is a balancing act to attract, retain and develop the required level of technical personnel that will enable the municipality to maintain acceptable levels of infrastructure functionality together with effective implementation of the capital programme within the constrained financial and economic conditions.

In the 2021/2022 municipal financial year, through its operational budget and capital infrastructure development programme the district has managed utilize the available grants to ensure the provision of water services to the majority of its population and extend services to those communities that were previously not served. The municipality managed to spend 100% of its Municipal Infrastructure Grant as at the end of the 2021/2022 municipal financial year and a number of projects were completed during the said financial year.

A key objective must be to improve the financial resources with regards to revenue collection and sourcing additional funding in order to ensure adequate budget is available for the operations and maintenance of the services. Capital budget is generally a key focus and allocations are more specifically circumscribed. Depending on the strategies and tactics followed by the JGDM, the services backlog can be tackled and eradicated in medium to long-term especially with sanitation. It is however the operational capabilities that will have the more lasting impact in terms of optimizing the efficiency and effectiveness of the existing water services infrastructure in facilitating social and economic developments within the region.

The new household and population data from the recently completed Statistics South Africa Census of 2022 will reveal the baseline backlogs with which the municipality will determine the extent of water supply and sanitation services coverage thus the backlogs.

An important constituent of a viable infrastructure base is assessing the appropriateness of technology choices for the circumstances and ensuring the operational integrity of the investment. Planning times must be increased to allow for sound engineering at inception with the view to reduce lifecycle costs of the infrastructure being planned and allow for more operational risk assessments. A case in point is the failure of all the high technology wastewater

treatment works of the municipality owing to its advanced technology, lack/ inadequate technical expertise within the municipality, financial resources and other.

Water services provision is about product quality and quantity. Product quality makes the highest impact on both consumers and the environment. Households must receive wholesome water that is not harmful to human health. Discharges of wastewater into the environment must meet stringent requirements such that it will not degrade the receiving environment or its assimilative capacity and negatively affect human health and the economic development. There are existing standards that must be met and all systems must be designed and/or operated to meet national standards of quality. Wastewater effluent quality must meet the general or special limits depending on licence requirements in order to reduce potential pollution of the receiving environment. As at the beginning of the 2022/2023 municipal financial year, the municipality has been issued with five pre- or directives for non-functional wastewater infrastructure resulting in the pollution of watercourses and affecting the ability of downstream water users to access acceptable water for their use.

Customers, be they domestic or otherwise are at the centre of water services provision. The needs and aspirations of the customers must receive the full attention of the water services provider. It is imperative for the municipality to proactively communicate and inform customers and not to wait for them to raise issues. The perceptions of customers therefore need to be seriously considered and managed. The Prepaid Meter project is one of the WCWDM initiatives that will assist the municipality in enhancing its revenue base and also reduce the consumer water consumption. The Debt Write Off scheme will also enhance the interaction with customers and improve the revenue of the municipality.

The implementation of Water Conservation and Water Demand Management is important in ensuring the preservation of the already limited raw water sources and also incorporates balancing of competing needs and issues of equity between competing needs. The reporting on the implementation of WCWDM and the No Drop data is critical in assessing the extent of water losses and impact of the mitigation measures.

ANNEXURE A
RURAL WATER SUPPLY SCHEMES

Village	Water Source	Borehole Information	Additional information
MACLEAR			
1. Diphini	1 borehole	120m deep	
2. Maladini	1 borehole		
3. Eteyeni 1	1 borehole	EC/001/UK	
4. Eteyeni 2	1 borehole	No information	
5. Gamakulu	1 borehole	No information	
6. Ngxaxa Goji	1 borehole	No information	
7. Jojweni 1	1 borehole	No information	
8. Jojweni 2	1 borehole and spring	No information	
9. Katkop	1 borehole	EC/025/UK	
10. Khohlopong	1 borehole	No information	
11. Koloni	Spring well	No information	
12. Kwalanga	Spring well	No information	
13. Langahlubo	1 borehole	T30547	
14. Luzie-1	1 borehole	ECT34051	
15. Luzie-2	1 borehole	No information	
16. Mabheleni	1 borehole	No information	
17. Magwaca	1 borehole	ECT35/090	
18. Makhalong	1 borehole	No information	
19. Makhatlanyeng	1 borehole	No information	
20. Maqwathini	1 borehole	No information	
21. Manxeleni	1 borehole and spring	No information	Village is under ORTDM
22. Mfabantu	3 springs	No information	
23. Mgcantsini	1 borehole	EC10301UK and 87m deep	
24. Moroka	1 borehole	EC1031UK and 93m deep	
25. Mpehlo		No information	The village falls in ORTM

Village	Water Source	Borehole Information	Additional information
26. Mpendle		No information	The village falls in ORTM
27. Ngcothi	Spring	No information	The village falls in ORTM
28. Nqomo	Spring well	No information	
29. Nyango	Spring	No information	
30. Phelandaba	1 borehole	No information	The village falls in ORTM
31. Rhodesia	1 borehole	2 070 113	
32. Sekoteng	1 borehole	No information	
33. Sikhepheni	1 borehole	No information	
34. Stinkoro	1 borehole	No information	
35. Tshikitsha	1 borehole	EC135/091	
36. Mfanta	1 borehole	EC003 UK	
37. Rhamalani	1 borehole	ECT 35/097	
UGIE			
1. Lunyaweni	1 borehole and 3 springs	No information	
2. Nyibibeni	Spring	No information	
3. Ntsilinthwa	1 borehole and a spring	798-0042 AND 70m deep	
4. Ncembu	1 weir and booster pump	Weir on the	
5. Luthuthu	3 springs	No information	
6. Mbinja South	3 springs	No information	
7. Nkalweni	1 borehole and spring	ECT 035-037	
8. Augustine	1 borehole and spring	EC058 and 60m	
9. Somerville	1 borehole	No information and 120m deep	
10. Lower Sinxako	1 borehole	EC071UK and 71m deep	
11. Siqhungqwini	1 borehole	EC071UK and 99m deep	
12. Upper Sinxako	1 borehole	No information	
13. Ngcele	Spring	No information	
14. Ephiphany	1 borehole	No information	
15. Hope Dale	1 borehole	No information	60 deep borehole

Village	Water Source	Borehole Information	Additional information
MT FLETCHER			
1. Setaka	1 borehole	No information	
2. Phirintsu	1 borehole	No information	
3. Tabatlala	1 borehole	EC/T33/07	80m deep
4. Xaxazana	1 borehole	EC-00265	
5. Gobo	1 borehole	EC/086UK	
6. Khalashu		T30570	
7. Koeberg, Seqhobong A&B, Wedding Cake, Mahoabatsane, Ntoko & Sethathi	Weir	Weir on the Blakfontein River	Flow rate drops every now and then.
8. Nxotshana 1	1 borehole	ECT/318/076	
9. Mathafeni		ECT-34026	
10. Mvumane/Farview	1 borehole	EC/042UK	
11. Phirintsu	1 borehole	No information	
12. Skoteng	1 borehole	ECT/T34/003	
13. Mmoleko	1 borehole	ECT/33009	
14. Zanyeni	1 borehole	ECT34023	57m deep
15. Setabataba	1 borehole	ECT34015	
16. Mahaneng	1 borehole	No information	
17. Ngodiloe	1 borehole	EC408UK	64m deep
18. Makhanyaneng	1 borehole	No information	80m deep
19. Nxotshana 2	1 borehole	3060012	57m deep
20. Thembeni/Tinana	1 borehole	ECD87ZBK	80m deep
21. Mangoloaneng		No information	
22. Nxotshana 3	1 borehole	ECT-34-126	
23. Mhlotsheni	Bulk water supply	Not applicable	Sterkspruit water supply system
24. Kinira Port	1 borehole	No information	
25. Polokoe	1 borehole	ECT/33009	
26. Makuleng	1 borehole	EC/038/UK	80m deep
27. Dzingwa	1 borehole	EC/T34/112	80m deep

Village	Water Source	Borehole Information	Additional information
STERKSPRUIT (52 boreholes)			
1. Gcina	3 boreholes	No information	
2. Ndingishe		No information	
3. Storom	2 borehole	No information	
4. Lower Telle	4 boreholes	No information	
5. Musong	2 boreholes	No information	
6. Majuba	1 borehole and 1 spring	No information	
7. Bebeza North	2 boreholes and 1 spring	No information	
8. Makhumsha	1 borehole	No information	
9. Upper Telle	1borehole	No information	
10. Dangershoek	1borehole	No information	
11. Boomplaas	1borehole	No information	
12. Ntabamhlophe	1borehole and 1spring	No information	
13. Rockcliff	1borehole	No information	
14. Sjorha	1 borehole	No information	
15. Orangedale	1 borehole	No information	
16. Beltfontein	1 borehole	No information	
17. Rietfontein	1 borehole	No information	
18. Mkunyazo	2 borehole	No information	
19. Hillside	1 borehole and spring	No information	
20. Mission	1 borehole	No information	
21. Zingxengele	2 boreholes	No information	
22. Phelandaba	2 boreholes	No information	
23. Makakaleng	2 borehole and 1 spring	No information	
24. Hohobeng	1 borehole	No information	
25. Penhoek	2 borehole	No information	Confirm progress of Quick-wins project from PMU

Village	Water Source	Borehole Information	Additional information
26. Mfinci	2 borehole and 2 spring	No information	
27. Blikana/Extension	1 borehole	No information	
28. Bebeza E	1 borehole	No information	Diesel and electricity powered
29. Ntyinindini	2 boreholes and 1 spring	No information	
30. Blikana/Ntubeni	1 borehole	No information	
31. Bebeza S	1 borehole	No information	
32. Qhimirha	1 borehole and 1 spring	No information	
33. Bikizana	2 boreholes	No information	Area lies on the edge of the Sterkspruit water supply scheme but water does not reach village due to illegal connections
34. Thabalesoba	1 borehole	No information	New borehole
35. Thuntubele	1 borehole	No information	New borehole
36. Dulciesnek	1 borehole and bulk water	No information	

ANNEXURE B
VILLAGES SUPPLIED FROM BULK WATER SUPPLY SCHEMES

VILLAGE NAME	ADDITIONAL INFORMATION
MT FLETCHER WATER SUPPLY SYSTEM (estimated population: 49 840)	
1. Isolomzi	Ward 9 villages
2. Epainette Mbeki	
3. Khalankomo	
4. Thembeni	
5. Katlehong	
6. Iketleng	Ward 10 villages
7. Mahemeng	
8. Lepita	
9. Phomolong	
10. Shiyabazali	
11. Boraki 1	
12. Boraki 2	
13. Madzura 1	
14. Madzura 2	
15. Jweng-lanthula	
16. Mpharane	
17. Dengwane	Ward 11 village
18. Linokong	Ward 14 villages
19. Refele	
20. Tsekong	Ward 15 villages
21. Tsekong Mission	
22. Kutloanong	
23. Nkululekweni	
24. Polar Park	
25. Lower Tokoana	
26. Basieng	

VILLAGE NAME	ADDITIONAL INFORMATION
STERKSPRUIT & JOZANA WATER SUPPLY SCHEME	
1. Mokhesi	These two villages are not linked to the Zastron bulk water supply line to Walaza and Ndofela. Many of the households and car washes are illegally connected to the bulk line. A network and reservoir for these villages are required.
2. Makheteng	
3. Dulciesnek	The area is supplemented from a borehole due to leaks and illegal connections.
4. Thabalesula	
5. Walaza	Water does not reach these villages due to reduce pressure as a result of the illegal connections in Makheteng and Mokhesi. District considers to install valves, remove illegal connections and refurbishment of the Zastron bulk water pipeline
6. Ndofela	
7. Mayisela	
8. Mfiki	
9. Mbobo	
10. Bikizana	
11. Macacuma	Some areas of the village do not receive water due to reduce pressure as a result of the illegal connections in Makheteng/Mokhesi.
12. Coville	The completion of the Herschel bulk water pipeline will improve the water supply to these villages.
13. Mdlokovane	
14. Witterbergen	
15. Dibinkonzo	
16. Ntsimekweni	
17. Hlomendlini	
18. Khiba	
19. Thuntubele	The area is supplemented from groundwater.
20. Joveleni	Water does not reach the pumpstation due to illegal connections on the pipeline and a project is in place to supply the village from the Jozana water purification plant. Village is also supplied from a borehole in Thuntubele
21. KwaNgquba	
22. Umlamli	Water is not reach the Hoita pumpstation due to illegal connections and a spring is used to supplement water supply.
23. Hinana	
24. Tienbank	
25. Slindini	
26. Meyi	
27. Blue Gums	
28. Herschel	The bulk water pipeline to Herschel is currently being upgraded to improve the water supply to the area
29. Orange Dale	
30. Skisazana	The new extension to this village does not have water and a project is in place to extend water to this area.
31. Jozana	
32. Jozana's Nek	
33. Magwiji	

ANNEXURE C
PUBLIC PREMISES WITHIN THE DISTRICT

CATEGORY	NAME	LOCATION	WATER SOURCE	SANITATION
Police Stations	1. Aliwal North Police Station	Barkley Street ,Aliwal North 9750	Bulk water	Waterborne & network
	2. Jamestown Police Station	No.3 Aliwal Street, Jamestown, 9742	Bulk water	Waterborne & network
	3. Maletswai Police Station	1814 Makhetha Street. Dukathole, Aliwal North, 9750	Bulk water	Waterborne & network
	4. Lady Grey Police Station	11 Dwars Street, Lady Grey	Bulk water	Waterborne & network
	5. Rossouw Police Station	478 Nepgen Street, Rossouw	Bulk water	Septic tank
	6. Ugie Police Station	Church St, Ugie	Bulk water	Septic tank
	7. Maclear SAPS	Maclear	Bulk water	Sewer network
	8. Mt Fletcher SAPS	Taylor Bequest Street, Mt Fletcher, 4770	Bulk water	DPW sewer ponds
	9. Zamuxolo SAPS	Zamuxolo, Mt Fletcher	Bulk water	Septic tank
	10. Katkop SAPS	Kat-Kop Village, Mt Fletcher	Borehole	Septic tank
	11. Mbizeni SAPS	Mbizeni Farms, Mt Fletcher	Borehole	Septic tank
	12. Tabase SAPS	Tabase Village, Mt Fletcher	Borehole	Septic tank
	13. Elands Height SAPS	Maclear	Bulk water	Septic tank
	14. Steynsburg SAPS	10 Venter Street, Steynsburg	Bulk water	Sewer network
	15. Venterstad SAPS	11 Bingle Street, Venterstad	Bulk water	Sewer network
	16. Burgersdorp SAPS	Navara Street, Burgersdorp	Bulk water	Network
	17. Rhodes SAPS	1 Naudes Neck Road, Rhodes	Bulk water	Septic tank
	18. Phumalanga SAPS	Phumalanga, Sterkspruit	Groundwater	Septic tank
	19. Palmietfontein SAPS	Palmietfontein, Sterkspruit		Septic tank
Magistrate Courts	1) Aliwal North	Aliwal North	Bulk water	Waterborne & network
	2) Barkly East	Barkly East	Bulk water	Waterborne & network
	3) Burgersdorp	Burgersdorp	Bulk water	Waterborne & network
	4) Jamestown	Jamestown	Bulk water	Waterborne & network
	5) Lady Grey	Lady Grey	Bulk water	Waterborne & network
	6) Maclear	Maclear	Bulk water	Waterborne & network
	7) Mount Fletcher	Mount Fletcher	Bulk water	Waterborne & septic tank
	8) Sterkspruit	Sterkspruit	Bulk water	Waterborne & network
	9) Steynsburg	Steynsburg	Bulk water	Waterborne & network
	10) Ugie ***(Within Ugie SAPS)***	Ugie	Bulk water	Waterborne & network
	11) Venterstad	Venterstad	Bulk water	Waterborne & network
Prisons	1. Burgersdorp Correctional Services	Burgersdorp	Bulk water & Bohole	Waterborne & network
	2. Burgersdorp Place of Safety	Thembisa Township, Burgersdorp	Bulk water	Waterborne & network
	3. Mt Fletcher Correctional Services	Mt Fletcher	Bulk water	Waterborne & network
	4. Barkly East Correctional Services	Barkly East	Bulk water	Waterborne & network
	5. Sterkspruit Correctional Services	C/o Main Road and Van Tonder Street, Sterkspruit	Bulk water	Waterborne & network

FET	1) Ikhala Technical and Vocational Education and Training (TVET) College	Aliwal North	Bulk water	Waterborne and sewer network
		Sterkspruit	Bulk water	Waterborne and sewer network
	2) Ingwe FET College	Mt Fletcher	Bulk water	Private sewer line
Public pools	2) Aliwal Spa	Springs, Aliwal North	Bulk water	Waterborne and sewer network
Hospitals	1. Burgersdorp Hospital	Burgersdorp	Bulk water	Waterborne & network
	2. Steynsburg Hospital	Steynsburg	Bulk water	Waterborne & network
	3. Aliwal North Hospital	No. 1 Park Avenue ,Aliwal North 9750	Bulk water	Waterborne & network
	4. St Francis Hospital	Bantu Street, Dukathole, Aliwal North	Bulk water	Waterborne & network
	5. Jamestown Hospital	3 Hill Street, Jamestown, 9742	Bulk water	Septic tanks
	6. Empilisweni Hospital	Sterkspruit	Bulk water	Waterborne & network
	7. Umlamli Hospital	Umlamli Village, Sterkspruit	Stream	Waterborne and private oxidation pond
	8. Lady Grey Hospital	Bekker Street, Lady Grey	Bulk water	Waterborne & network
	9. Cloete Joubert Hospital	No.1 Voortrekker street, Barkly East	Bulk water	Waterborne & network
	10. Taylor Bequest Hospital	P/Bag x1129, Mt Fletcher, 4770	Bulk water	Waterborne, network and DPW WWTWs
	11. Maclear General Hospital	Fourie Street Maclear 5480	Bulk water	Waterborne & network
Clinics	1. Eureka Clinic	Burgersdorp	Bulk water	Network
	2. Thembisa Clinic	Burgersdorp	Bulk water	Network
	3. Mzamomhle Clinic	Burgersdorp	Bulk water	Network
	4. Burgersdorp Clinic	Burgersdorp	Bulk water	Network
	5. Ventersdad Clinic	Venterstad	Bulk water	Network
	6. Oviston Site Clinic	Venterstad	Bulk water	Network
	7. Khayamnandi Clinic	Steynsburg	Bulk water	Network
	8. Hilton Clinic	Kruger Circle, Marcow Street ,Hilton, Aliwal North, 97	Bulk water	Network
	9. Block H Clinic	1842 Ntsoetsanyane Street Dukathole, Aliwal North, 9750	Bulk water	Network
	10. Maletswai Clinic	No. 1118 Broadway, DukatholeAliwal North	Bulk water	Network

	11.	Jamestown Clinic	467 Msobomvu Street, Masakhane, Jamestown	Bulk water	Network
	12.	Poly Clinic	No. 2 Murray Street, Aliwal North	Bulk water	Network
	13.	Masibulele Clinic	Mabele Village, Upper Telle, Sterkspruit		
	14.	Palmietfontein Clinic	Palmietffontein Village		
	15.	St. Michael Clinic	Mbihli Village		
	16.	Phelandaba Clinic	Phelandaba Village, Sterkspruit		
	17.	Hillside Clinic	Hillside Village, Sterkspruit		
	18.	Ndofela Clinic	Ndofela Village		
	19.	Esilindini Clinic	Esilindini Village		
	20.	Sterkspruit Town Clinic	Mokhesi Village		
	21.	Musong Clinic	Musong Village		
	22.	Sunduza Clinic	Sunduza Village		
	23.	Bensonvane Clinic	Bensonvane Village		
	24.	Bluegums Clinic	Bluegums Village		
	25.	Macacuma Clinic	Macacuma Village		
	26.	Zenethemba Clinic	Thaba Lesoba Village		
	27.	Witterbergen Clinic	Witterbergen Village	Bulk water	Pit latrines
	28.	Umlamli Gateway Clinic	Hoita Village, Sterkspruit		
	29.	Hlomendlini Clinic	Hlomendlini Village	Bulk Water	Pit
	30.	Authur Yawa Clinic	Rhodes	Bulk water	Waterborne/ Pit latrine
	31.	Sonwabo Zandile Clinic	Barkly East	Bulk water	Network
	32.	Robert Mjobo	Lady Grey	Bulk water	Network
	33.	Herschel Clinic	Herschel	Bulk water/Borehole	Network
	34.	Barkly East Correctional Services clinic	Barkly East	Bulk water/Borehole	Network
	35.	Empilisweni Clinic	Main Street Ugie	Bulk water supply	Septic tanks
	36.	Ugie Town Clinic	Ugie township	Bulk water	Network

	37.	Umnga Flats Clinic	Umnga Village	Spring water, Water carting and borehole	Septic tanks
	38.	Seqhobong Clinic	Seqhobong A/A, Mt Fletcher, 4770	Seqhobong Clinic	Septic tank
	39.	Mangoloaneng Clinic	Mangoloaneng A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	VIP toilet
	40.	Bethania Clinic	Bethania A/A, Mt Fletcher, 4770		
	41.	Ulundi Clinic	Elundini A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	Septic tanks
	42.	Taylor Bequest Clinic/PHC	Isolomzi Location, Mt Fletcher, 4770	Bulk water supply	Pit latrines for patients Network toilets for staff
	43.	Khungisizwe Clinic	Upper Nxaxa A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	Septic tanks
	44.	Hlangalane Clinic	Ngqayi A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	Septic tanks
	45.	Kat-Kop Clinic	Kat-kop A/A, Mt Fletcher, 4770	Bulk water	Septic tanks
	46.	Hlankomo Clinic	Hlankomo A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	Septic tanks
	47.	Tsitsana Clinic	Lower Tsitsana A/A, Mt Fletcher, 4770	Rain water harvesting and water carting	Septic tanks
	48.	Sonwabile Clinic	Sonwabile township, Maclear 5480	Bulk water	Septic tank
	49.	Maclear Town Clinic	Cnr Station &Rugby Street, Maclear, 5480	Bulk water	Septic tank
	50.	Gqaqhala Clinic	Gqaqhala A/A, Ugie	Rain water harvesting and water carting	Septic tanks
	51.	Ncembu Clinic	Ncembu A/A Ugie	Rain water harvesting and water carting	
	52.	Ngxaza Clinic	Ngxaza A/A Maclear	Rain water harvesting and water carting	Septic tanks
	53.	Queen Noti Clinic	Ngcele A/A, Maclear	Rain water harvesting and borehole	Septic tanks
	54.	St Augustine Clinic	St Augutines, Maclear	Rain water harvesting and borehole	Septic tanks
	55.	Mqokolweni Clinic	Mqokolweni A/A Maclear	Rain water harvesting and borehole but the borehole is not functional	Septic tanks

Schools	1.	Dalibango J.S.S	Ugie	Water carting and rainwater	Pit latrines
	2.	Daluxolo S.P.S Merged with another school	Ugie		
	3.	Dinizulu J.S.S	Ugie, Ntsilithwa village	Bulk water and water carting	Septic tank
	4.	Elunyaweni J.S.S	Ugie	Bulk water	Pit latrines
	5.	Enkalweni J.S.S	Ugie	Bulk water	Pit latrines
	6.	Gabulinkungu J.S.S	Ugie	Bulk water and water carting	Pit latrines
	7.	Gengangcwazi S.P.S	Ugie	Water carting and rainwater	Pit latrines
	8.	Gqaqhala J.S.S	Ugie	Bulk water and water carting	Pit latrines
	9.	E.T Tababe P. S	Ugie , Ntokozweni township	Bulk water	Septic tank
	10.	Idyoki Pub.Schl	Ugie	Bulk water	Septic tank
	11.	Lututu J.S.S	Ugie , Luthuthu Village	Bulk water and water carting	Pit latrines
	12.	Montgomery F.S	Ugie	Bulk water and water carting	Pit latrines
	13.	Ncembu J.S.S	Ugie	Bulk water and water carting	Pit latrines
	14.	Nyibiba J.S.S	Ugie	Bulk water and water carting	Pit latrines
	15.	Retreat F.S (Farm School no longer exists)	Ugie	Water carting and Borehole	Pit latrines
	16.	Samuel Nombewu	Ugie	Tanks	Pit latrines
	17.	Sibabale S.S.S	Ugie	Bulk water	Septic tank
	18.	Ugie High School	Ugie	Bulk water	Network
	19.	Wheatlands J.S.S	Ugie	Bulk water	Pit latrines
	20.	Umthawelanga SS	Maclear	Bulk water	Septic tank
	21.	Maclear Methodist School		Bulk water	Septic tank
	22.	Nolufefe SPS	Maclear	Bulk water	Septic tank
	23.	Joelshoek Farm School	Maclear	Water carting and rain water harvesting	Pit latrines

	24.	Ntaba JSS	Maclear	Bulk water supply	Pit latrines
	25.	Mbonisweni JSS	Maclear	Water carting and rain water harvesting	Pit latrines
	26.	Ngcele JSS	Maclear	Water carting and rain water harvesting	Pit latrines
	27.	Vipan Farm School no longer operational	Maclear		
	28.	Nyathela J.S.S	Macacuma Village, Sterkspruit	Bulk water	Pit latrine
	29.	Mpumelelo S.S.S	Phelandaba Village eSiphongweni, Sterkspruit	Borehole	Pit latrine
	30.	Jonas Goduka S.S.S	Hillside Village, Sterkspruit	Borehole	Pit latrine
	31.	Masakhane S.S.S	Mbobo Village , Sterkspruit	Borehole	Pit latrine
	32.	Blikana S.S.S	Blikana Village, Sterkspruit	Borehole	Pit latrine
	33.	Luvumelwano S.S.S	Voyizana Village, Sterkspruit	Bulk water	Pit latrine
	34.	Ebenezer S.S.S	Bluegums Village, Sterkspruit	Bulk water	Pit latrine
	35.	Sterkspruit Christian Private School	Main Road, Sterkspruit	Bulk water	Network
	36.	Rex Mdebuka Senior Primary School	Khwezi Naledi, Lady Grey	Bulk water	Network
	37.	Dr. Pallo Jordaan Public School	Khwezi Naledi location, lady Grey	Bulk water	Network
	38.	Lady Grey Art Academy	18 Brummer Street, lady Grey	Bulk water	Network
	39.	Transwilger Primary School	01 McPherson Street, Lady Grey		
	40.	Rhodes Public School. **The school burnt down. They are using a public hall.**	Site 334 Rhodes		
	41.	Malikhanye S.S.S	Site No.6 Nkululeko Township/ Barkly East	Bulk water	Network
	42.	Forest Ridge Private School	Brownly Street, Barkly east		
	43.	Moddelpos Primary School	Rossouw Village,	Bulk water	Pit latrines
	44.	St Mary's Senior Primary Schoo	5 Tugela Street, Herschel	Bulk water	Septic tank
	45.	St Teresa S.S.S	Kwagcina Village, Sterkspruit		
	46.	Nkululeko S.S.S	Esilindini Village, Sterkspruit		
	47.	Sterkspruit S.S.S	Zwelitsha Township, Sterkspruit		

	48.	Mehlomakhulu S.S.S	Herchel Village, Sterkspruit	Bulk water	Pit latrines
	49.	Mzomhle S.S.S	Jozana's Hoek Village, Sterkspruit		
	50.	Nompumelelo Senior Secondary	Witterbergen Village, Sterkspruit	Bulk water	Pit latrine
	51.	Sivumelene S.S.S	Bebeza Village, Sterkspruit		
	52.	Barkly East High School	Brown Street, Barkly east.	Bulk water	Network
	53.	Tlokweng SSS	Makalakaleng Village, Sterkspruit		
	54.	Sizamulwazi Public School 1	2494 Lulama Hlanjwa, Barkly East	Bulk water	Network
	55.	Sizamulwazi Public School 2	Lulama Hlanjwa, Barkly East	Bulk water	Network
	56.	DRC Primary School	Church Street Fairview , Barkly East	Bulk water	Network
	57.	Cebolethu Secondary School. **No longer functional**	No.1 School Street, Rossouw	Bulk water	Septic tanks
	58.	Aliwal North Primary School	Benson Street, Aliwal North, 9750	Bulk water	Network
	59.	Bishop Demond Secondary School	Old Lady Grey Road, Aliwal North, 9750	Bulk water	Network
	60.	Aliwal North High School	Somerset Street, Aliwal North, 9750	Bulk water	Network
	61.	Amasango Primary School	18 Murray Street, Aliwal North, 9750	Bulk water	Network
	62.	Nkosisikelela Primary School	Aliwal North Show ground, Aliwal North, 9750	Bulk water	Network
	63.	ANTOS Technical School.	Old Lady Grey Road, Aliwal North, 9750	Bulk water	Network
	64.	Vulamazibuko Primary School	Broadway Street, Dukathole, Aliwal North 9750	Bulk water	Network
	65.	Nchafatso Primary	Baduza Street, Block G, Dukathole Aliwal North, 9750	Bulk water	network
	66.	Pelomosa Primary	Broadway Street, Dukathole, Aliwal North 9750	Bulk water	Network
	67.	Maletswai Primary School	Baduza Street, Block G, Dukathole Aliwal North, 9750	Bulk water	Network
	68.	Malcomess High School	Block G, Dukathole, Aliwal North, 9750	Bulk water	Network
	69.	Vumile Primary School	Block H, Dukathole, Aliwal North, 9750	Bulk water	Network
	70.	Braamspruit Primary Farm School	Braamspruit Farm, Aliwal North, 9750	Bulk water	Network
	71.	PhambiliMzontsundu High School	Jamestown 9742	Bulk water	Network

	72.	Phahamameng Primary School.	Mzingisi Street, Masakhane, Jamestown, 9742	Bulk water	Network
	73.	Flamingo Primary School	Cnr Dowling & Tulbagh Street, Springs, Aliwal North , 9750	Bulk water	Network
	74.	Holy Cross Primary School	56 Cathcart Street, Aliwal North, 9750	Bulk water	Network
	75.	Alhiet Van Der Merwe	Marcow Street, Hilton, Aliwal North, 9750	Bulk water	Network
	76.	Egqili High School	Rose Street, Hilton, Aliwal North, 9750	Bulk water	Network
	77.	Ethembeni High School	Burgersdorp	Bulk water	Network
	78.	Mzimkhulu Primary School	Burgersdorp	Bulk water	Network
	79.	Mpumelelo Mfundisi Primary School	Burgersdorp	Bulk water	Network
	80.	Maruping Primary School	Burgersdorp	Bulk water	Network
	81.	Burgersdorp Laerskool	Burgersdorp	Bulk water	Network
	82.	Burgersdorp Hoerskool	Burgersdorp	Bulk water	Network
	83.	Burgersdorp Primary School	Eureka, Burgersdorp	Bulk water	Network
	84.	Simphiwe Khethwa Senior Secondary School	Venterstad	Bulk water	Network
	85.	Kareefontein Primary School	Venterstad	Bulk water	Network
	86.	Khayamnadi Primary School	Venterstad	Bulk water	Network
	87.	Oviston Primary School	Venterstad	Bulk water	Network
	88.	Intlalo Senior Secondary School	Steynsburg	Bulk water	Network
	89.	Mpumelelo Primary School	Steynsburg	Bulk water	Network
	90.	Daluvuyo Primary School	Steynsburg	Bulk water	Network
	91.	Steynsburg Combined Primary School	Steynsburg	Bulk water	Network
	92.	Uni – Laeerskool Primary School & Hostel	Steynsburg	Bulk water	Network
	93.	Zava Senior Primary School	Zava Village	Network/Tank	Pit latrines
	94.	Witterbegen J.S.S	Wintterbegen	Network/Tank	Pit latrines
	95.	Skisazana J.S.S	Skisazana Village	Network/Tank	Pit latrines
	96.	Mdlokovana J.S.S	Mdlokovana Village	Tank	Pit latrines
	97.	Mbhonisweni S.P.S	Mbhonisweni Village	Network/Tank	Pit latrines
	98.	Entsimekweni J.S.S	Ntsimekweni Village	Network/Tank	Pit latrines

	99.	Ezintatyaneni Primary School	Ntsimekweni	Network/Tank	Pit latrines
	100.	Manxeba J.S.S	Manxeba Village	Network/Tank	Pit latrines
	101.	Nyaniso P.S	Manxeba Village	Tanks	Pit latrines
	102.	Hlomendlini J.S.S	Hlomendlini Village	Tanks	Pit latrines
	103.	Dibinkonzo J.S.S	Dibinkonzo Village	Network/Tank	Pit latrines
	104.	Kiba J.S.S	Kiba Village	Tank	Pit latrines
	105.	Belmore Farm School	Birkhall Farm	Tank	Pit latrines
	106.	Milner Farm School	Rossouw/ Dodercht	Rain Water/ Tank	Pit latrines
	107.	Wartrail Farm School	Wartrail Farm	Tank	Pit latrines

ANNEXURE D
JOE GQABI DISTRICT MUNICIPALITY
APPROVED WATER SERVICES TARIFFS: FINANCIAL YEAR 2022/2023
(ALL TARIFFS ARE EXCLUDING VAT @ 15%

JOE GQABI DISTRICT MUNICIPALITY						
WATER SERVICES: SCHEDULE OF CHARGES AND TARIFFS - 2021/2022 FINANCIAL YEAR						
(ALL TARIFFS ARE EXCLUDING VAT @ 15%)						
	Description	**Approved 2019/2020**	**Approved 2020/2021**	**Approved 2021/2022**	**Approved 2022/2023**	
		(Excluding VAT)	**(Excluding VAT)**	**(Excluding VAT)**	**(Excluding VAT)**	
		Part A: Applicable during times of normal water availability				
	CHARGES FOR SUPPLY OF WATER					
		Water supplied shall be charged at the appropriate rate as set out hereunder, as Council shall determine from time to time.				
		Conventional metering:				
		i) Residential (Excluding Indigents)				
	Up to 0,2kl/d (0 - 6 kl)	10,39	11,12	11,79	12,50	
	Next 0,4kl/d (7 - 18 kl)	14,15	15,14	16,05	17,01	
	Next 0,4kl/d (19 -30 kl)	14,15	15,14	16,05	17,01	
	Next 0,6kl/d (31 - 48kl)	21,22	22,71	24,07	25,51	
	Additional consumption (per kl)	33,96	35,99	38,15	40,44	
	Churches and Registered charity organisations will be charged under this tariff as from 19/20					

			ii) Commercial and Industrial													
		Up to 0,2kl/d (0 - 6 kl)	10,35		11,08		11,74		11,74							
		Next 0,4kl/d (7 - 18 kl)	14,09		15,07		15,98		15,98							
		Next 0,4kl/d (19 -30 kl)	14,09		15,07		15,98		15,98							
		Next 0,6kl/d (31 - 48kl)	16,81		17,99		19,07		19,07							
		Additional consumption (per kl)	19,30		20,65		21,89		21,89							
			iii) Institutional (National, Provincial and Local Government)													
		Flat rate	21,22		22,50		23,85		25,28							
			iv) Indigents (First 6kl are subsidised)													
		Up to 0,2kl/d (0 - 6 kl)	10,39		11,02		11,68		11,68							
		Next 0,4kl/d (7 - 18 kl)	14,15		15,00		15,90		15,90							
		Next 0,4kl/d (19 -30 kl)	14,15		15,00		15,90		15,90							
		Next 0,6kl/d (31 - 48kl)	21,22		22,50		23,85		23,85							
		Additional consumption (per kl)	33,96		35,99		38,15		38,15							
			Pre paid metering:													
			i) Residential (Excluding Indigents) (First 3kl of water is free)													
		Up to 0,2kl/d (0 - 6 kl)	14,89		15,78		16,73		17,74							
		Next 0,4kl/d (7 - 18 kl)	20,15		21,36		22,64		24,00							
		Next 0,4kl/d (19 -30 kl)	20,15		21,36		22,64		24,00							
		Next 0,6kl/d (31 - 48kl)	26,19		27,76		29,43		31,20							
		Additional consumption (per kl)	31,43		33,32		35,32		37,43							

			i) Residential (Excluding Indigents) (First 3kl of water is free)(With Septic tank)									
		Up to 0,2kl/d (0 - 6 kl)							14,19			
		Next 0,4kl/d (7 - 18 kl)							19,20			
		Next 0,4kl/d (19 -30 kl)							19,20			
		Next 0,6kl/d (31 - 48kl)							24,96			
		Additional consumption (per kl)							37,43			
			ii) Commercial and Industrial (First 3kl of water is free)									
		Up to 0,2kl/d (0 - 6 kl)	19,83		21,02		22,28		22,28			
		Next 0,4kl/d (7 - 18 kl)	25,41		26,93		28,55		28,55			
		Next 0,4kl/d (19 -30 kl)	25,41		26,93		28,55		28,55			
		Next 0,6kl/d (31 - 48kl)	33,03		35,01		37,11		37,11			
		Additional consumption (per kl)	39,64		42,02		44,54		44,54			
			i) Commercial and Industrial (First 3kl of water is free)(With Septic tank)									
		Up to 0,2kl/d (0 - 6 kl)							17,83			
		Next 0,4kl/d (7 - 18 kl)							22,84			
		Next 0,4kl/d (19 -30 kl)							22,84			
		Next 0,6kl/d (31 - 48kl)							29,69			
		Additional consumption (per kl)							44,54			
			iii) Institutional (National, Provincial and Local Government)									
		Flat rate	33,03		35,01		37,11		38,17			
			iv) Indigents (First 6kl are subsidised)									
		Flat rate	14,89		14,89		15,78		15,78			

			Water delivered by road tanker (Treated)			
		i) Charge for water supplied	33,03	35,01	37,11	39,34
		ii) Delivery charge (per km)	30,00	31,80	33,71	35,73
		iii) Minimum prepayment	1659,13	1758,68	1864,20	1976,05
	AVAILIBILITY CHARGE IN RESPECT OF EACH COMMUNICATION PIPE					
		a) Pipe connection from the bulk supply line				
		Domestic Consumers – Metered	80,36	85,18	90,29	95,71
		Domestic Consumers – Unmetered	480,59	509,43	540,00	572,39
		Business/industries - Metered	155,37	164,69	174,58	174,58
		Business/industries – Unmetered	555,60	588,94	624,28	624,28
		Rural Areas	146,17	154,94	164,24	164,24
		b) No pipe connection from the bulk supply line				
		Domestic	80,36	85,18	90,29	95,71
		Business/industries	155,37	164,69	174,58	174,58
		OTHER CHARGES				
		Reconnection of water				478,26
		New connection up to 22mm diameter	3502,61	3712,77	3935,53	4171,66
		(Note that previously a rate of R1590 per hour was charged)				
		New connection up to 22mm diameter exceeding 15m in length and connections exceeding 22mm diameter	7005,22	7425,53	7871,06	8343,33

		(Note that previously a rate of R1590 per hour was charged)										
		New connection for low cost housing	1751,30		1856,38		1967,77		2085,83			
		(New charge)										
		Bulk connection for developers	875,65		928,19		983,88		1042,92			
		(New charge)										
		Interruption and restoration of supply by consumer's request - :										
		- Interruption	875,65		928,19		983,88		1042,92			
		- Restoration	875,65		928,19		983,88		1042,92			
		(New charge)										
		Installation of a pre-paid meter (1 per erf)	FREE		FREE		FREE		FREE			
		Additional pre-paid meter per erf up to 15	3043,48		3226,09		3419,65		3624,83			
		Additional pre-paid meter per erf more than 15	2173,91		2304,35		2442,61		2589,17			
		(Special rates might be applied for - Approval by Accounting Officer)										
		(New charge)										
		Meter inspection (On request of consumer - prepayment)	553,04		586,23		621,40		658,68			
		Meter testing (On request of consumer - prepayment)										
		- Up to 40 mm	2027,83		2149,50		2278,47		2415,17			
		- 40 mm - 100mm	2580,87		2735,72		2899,87		3073,86			
		- Larger than 100mm	2949,57		3126,54		3314,13		3512,98			
		(New charge)										
		Hourly rates for labour -					Actual plus 20%		Actual plus 20%			
		Water deposits (New consumer/New owner)	850,00		850,00		850,00		850,00			

Description	Approved 2018/2019 (Excluding VAT)	Proposed 2021/202221/202220 (Excluding VAT)	Approved 2018/2019 (Excluding VAT)	Proposed 2021/202221/202220 (Excluding VAT)	Approved 2018/2019 (Excluding VAT)	Proposed 2021/202221/202220 (Excluding VAT)
	Part A: Applicable during times of normal water availability		Part B: Applicable during times of water shortage when the situation is critical but not an emergency (This is a new tariff structure since 18/19)		Part C: Applicable during a water shortage emergency (This is a new tariff structure since 18/19)	
CHARGES FOR SUPPLY OF WATER						
	Water supplied shall be charged at the appropriate rate as set out in the Part A, B and C hereunder, as Council shall determine from time to time.					
	Conventional metering:					
	i) Residential (Including Indigents)					
	(The first 6kl of water will be free to all the registered indigent consumers whereafter the same tariffs as below will be applicable)					
Up to 0,2kl/d (0 - 6 kl)	9,77	10,39	9,77	10,39	9,77	10,39
Next 0,4kl/d (7 - 18 kl)	13,29	14,15	13,29	14,15	13,29	14,15
Next 0,4kl/d (19 -30 kl)	13,29	14,15	14,62	16,98	26,58	26,58
Next 0,6kl/d (31 - 48kl)	14,89	21,22	29,24	32,16	53,16	56,35
Additional consumption (per kl)	23,83	33,96	87,71	51,46	159,49	159,49
Churches and Registered charity organisations will be charged under this tariff as from 19/20						
	ii) Commercial and Industrial					
Up to 0,2kl/d (0 - 6 kl)	9,77	10,39	9,77	10,39	9,77	10,39
Next 0,4kl/d (7 - 18 kl)	13,29	14,15	13,29	14,15	13,29	14,15
Next 0,4kl/d (19 -30 kl)	13,29	14,15	14,62	14,15	26,58	14,15
Next 0,6kl/d (31 - 48kl)	14,62	21,22	29,24	32,16	53,16	56,35

Additional consumption (per kl)	16,08	33,96	87,71	87,71	159,49	159,49
	iii) Institutional (National, Provincial and Local Government)					
Flat rate	14,62	21,22	21,93	32,16	39,87	56,35
	Pre paid metering:					
	i) Residential (Excluding Indigents) (First 3kl of water is free)					
Up to 0,2kl/d (0 - 6 kl)	14,89	14,89	14,89	14,89	14,89	14,89
Next 0,4kl/d (7 - 18 kl)	18,93	20,15	18,93	20,15	18,93	20,15
Next 0,4kl/d (19 -30 kl)	18,93	20,15	20,35	20,15	37,85	37,85
Next 0,6kl/d (31 - 48kl)	20,35	26,19	30,53	26,19	75,71	75,71
Additional consumption (per kl)	23,02	31,43	45,79	39,29	189,27	189,27
(Average increase of 4%, any consumption above 54kl will increase with 20%)						
	ii) Commercial and Industrial (First 3kl of water is free)					
Up to 0,2kl/d (0 - 6 kl)	19,83	19,83	19,83	19,83	19,83	19,83
Next 0,4kl/d (7 - 18 kl)	23,87	25,41	23,87	25,41	23,87	25,41
Next 0,4kl/d (19 -30 kl)			25,29	25,41	48,64	37,85
Next 0,6kl/d (31 - 48kl)	25,29	33,03	37,94	26,19	97,28	75,71
Additional consumption (per kl)	28,25	39,64	56,91	41,91	243,21	189,27
(Average increase of 4%)						
	iii) Institutional (National, Provincial and Local Government)					

Flat rate	23,87	33,03	25,29	25,41	48,64	37,85
	iv) Indigents (First 6kl are subsidised)					
Flat rate	14,89	14,89	14,89	14,89	14,89	14,89
	Water delivered by road tanker (Treated)					
i) Charge for water supplied	23,87	33,03	37,94	39,29	72,96	75,71
ii) Delivery charge (per km)	25,00	30,00	25,00	30,00	25,00	30,00
iii) Minimum prepayment	1 565,22	1 659,13	1 565,22	1 659,13	1 565,22	1 659,13
AVAILIBILITY CHARGE IN RESPECT OF EACH COMMUNICATION PIPE						
a) Pipe connection from the bulk supply line						
Domestic Consumers - Metered	75,81	80,36				
Domestic Consumers - Unmetered	453,39	480,59				
Business/industries - Metered	146,58	155,37				
Business/industries - Unmetered	524,16	555,60				
Rural Areas	137,90	146,17				
b) No pipe connection from the bulk supply line						
Domestic	75,81	80,36				
Business/industries	146,58	155,37				
OTHER CHARGES						
New connection up to 22mm diameter	3 304,35	3 502,61				

(Note that previously a rate of R1590 per hour was charged)												
New connection up to 22mm diameter exceeding 15m in length and connections exceeding 22mm diameter	6 608,70		7 005,22									
(Note that previously a rate of R1590 per hour was charged)												
New connection for low cost housing	1 652,17		1 751,30									
(New charge)												
Bulk connection for developers	826,09		875,65									
(New charge)												
Interuption and restoration of supply by consumer's request - :												
- Interuption	826,09		875,65									
- Restoration	826,09		875,65									
(New charge)												
Installation of a pre-paid meter (1 per erf)	FREE		FREE									
Additional pre-paid meter per erf up to 15	3 043,48		3043,48									
Additional pre-paid meter per erf more than 15	2 173,91		2 173,91									
(Special rates might be applied for - Approval by Accounting Officer)												
(New charge)												
Meter inspection (On request of consumer - prepayment)	521,74		553,04									

Meter testing (On request of consumer - prepayment)												
- Up to 40 mm	1 913,04		2027,83									
- 40 mm - 100mm	2 434,78		2580,87									
- Larger tha 100mm	2 782,61		2949,57									
(New charge)												
Water deposits (New consumer/New owner)	850,00		850,00									

ANNEXURE E
WATER SERVICES DEVELOPMENT PLAN (WSDP) PROJECTS – FUNDED AND UNFUNDED

EMERGENCY: WATER

Term	Project Name	Master Plan	Infrastructure needs	Description	Total Project Costs
1	Refurbishment of WTW's - JGDM	Burgersdorp	Refurbishment	Replace brickwork with concrete - WTW	
		Burgersdorp	New Extension to Existing	Provisional amount for diverting the raw water flow and to shut down 1 sedimentation tank - WTW	
		Burgersdorp	New Extension to Existing	Refurbish & upgrade sand filter - WTW	
		Burgersdorp	New Extension to Existing	Refurbish & upgrade sand filter - WTW	
		Burgersdorp	New Extension to Existing	Adapt coagulation & flocculation - WTW	1 047 208
2	Refurbishment of WTW's - JGDM	Ugie	New Extension to Existing	Build a new shelter for the coagulant dosing equipment at the WTW	
		Ugie	Upgrade Existing	New dosing pumps, spreader bar and aluminum weir at the WTW	328 826
3	Aliwal North WTP Off-Channel Dam	Aliwal North	New Extension to Existing	45 ML pre-sedimentation holding dams	
		Aliwal North	New Extension to Existing	Transfer Pumps - Holding Dams	
		Aliwal North	New Extension to Existing	Gravity Main Line - Holding Dams	
		Aliwal North	New Extension to Existing	Replace or refurbish mixers for flocculation	
		Aliwal North	New Extension to Existing	Enlarge chlorine dosing and storage room	
		Aliwal North	New Extension to Existing	New chlorine dosing apparatus and 900 kg cylinder deposit	
		Aliwal North	Refurbishment	Refurbish clari-flocculators	27 539 211
4	Zingenyameni and Lehlaneng Water Projects - Elundini	Elundini	Upgrade Existing	Complete Rising Main line - Zingenyameni	
		Elundini		Reservoir - 100kl - Zingenyameni	
		Elundini		Reticulation - Zingenyameni	
		Elundini		Standpipes - Zingenyameni	6 393 446
5	Refurbishment of WTW's - JGDM	Sterkspruit	Refurbishment	Filter System to old WTW's	
		Sterkspruit	Refurbishment	Fix the non-working valve acuators for automatic backwash cycle	3 925 180
6		Aliwal North	Upgrade Existing	200mm dia Gravity Main to Dukathole SP Reticulation	

	Aliwal North Water Pipe Replacement - Ph1	Aliwal North	Upgrade Existing	Dukathole SP Zone 1 Reticulation	16 357 484
7	**Zingenyameni and Lehlaneng Water Projects - Elundini**	Elundini	Upgrade Existing	Borehole siting, drilling and testing - Lehlakaneng	
		Elundini		Equipping of borehole - Lehlaneng	
		Elundini		Rising main line - Lehlaneng	
		Elundini		Electricity - Lehlaneng	2 429 168
8	**Refurbishment of WTW's - JGDM**	Jamestown	Refurbishment	Replace the two chlorine dosing pumps at WTW	
		Jamestown	Refurbishment	Replace the coagulant and soda-ash dosing pumps at WTW	
		Jamestown	Refurbishment	Repace the backwash water tank & pipework at WTW	231 067
9	**Aliwal North Water Pipe Replacement - Ph1**	Aliwal North	Upgrade Existing	250 dia. Bulk Rising Main form WTW to Terminal Reservoir	
		Aliwal North	Upgrade Existing	400 dia. Bulk Rising Main form WTW to Terminal Reservoir	23 510 140
10	**Refurbishment of WTW's - JGDM**	Burgersdorp	Upgrade Existing	Extend or add new chlorine dosing room with new chlorine dosing equipment at WTW	1 036 840
11	**Replacement of Bulk Pipeline - JL de Bruyn Dam - Burgersdorp**	Burgersdorp	Refurbishment	Replace 250mmØ bulk AC pipeline between Jl de Bruin Dam and the WTW	5 729 282
12	**Aliwal North Water Pipe Replacement - Ph1**	Aliwal North	Upgrade Existing	200mm dia. Bulk Gravity Main to Springs Reticulation	5 771 666
13	**Refurbishment of WTW's - JGDM**	Mt Fletcher	Refurbishment	Replace clear water shut off valve at filter	
		Mt Fletcher	Refurbishment	Provisional amount to replace chlorine dosing system	
		Mt Fletcher	Refurbishment	Repair/replace mixers in flocculation tank	
		Mt Fletcher	Refurbishment	Remove & replace de-sludging valve	
		Mt Fletcher	Refurbishment	Replace lateral pipework and media in one filter	1 116 825
14	**Refurbishment of WTW's - JGDM**	Sterkspruit	Refurbishment	Replace Chlorine dosing equipment in WTW2	311 052
15	**Refurbishment of WTW's - JGDM**	Burgersdorp	New Extension to Existing	Chippinis pump station soft starter	88 872

16	**Refurbishment of Burgersdorp and Jamestown Bh's**	Burgersdorp	Refurbishment	Refurbish non-functional boreholes	370 300
17	**Refurbishment of Burgersdorp and Jamestown Bh's**	Jamestown	Refurbishment	Fixing of non-operational boreholes	933 156
18	**Refurbishment of WTW's - JGDM**	Oviston	Upgrade Existing	Complete the clari-flocculator under construction and install the rotating half bridge	
		Oviston	Refurbishment	Refurbish existing clari-flocculator and replace rotating half bridge	1 454 538
19	**Refurbishment Meters - Lady-Grey, Burgersdorp, Jamestown**	Jamestown	Upgrade Existing	Replace non functional meters	133 308
20	**Refurbishment of WTW's - JGDM**	Steynsburg	Refurbishment	Repair filter control panel & constant rate control valve - WTW	
		Steynsburg	Refurbishment	Replace weir plates & pipework in sludge drying beds -WTW	
		Steynsburg	Refurbishment	Refurbishment of non-functional boreholes	
		Steynsburg	New Extension to Existing	Installation of water level monitoring at Boreholes	
		Steynsburg	Refurbishment	Refurbish valves and gauges - Teebus booster pump station	
		Steynsburg	Refurbishment	Renovate pump station building - Teebus Booster pump station	694 683
21	**Refurbishment Meters - Lady-Grey, Burgersdorp, Jamestown**	Lady Grey	Refurbishment	Investigate High water Losses at KweziNaledi (incl Bulk Water Meter Refurbishment)	
		Lady Grey	Refurbishment	Leak Detection - KweziNaledi	
		Lady Grey	Refurbishment	Leak Repairs- KweziNaledi	518 420

SHORT-MEDIUM: WATER

Term	Project Name	Master Plan	Infrastructure needs	Description	Total Project Costs
1	**Maclear - Phola Park New Reticulation**	Maclear	New Extension to Existing	Phola Park - New Reticulation Networks	7 309 722
2	**Maclear - New WTW's**	Maclear	New Extension to Existing	New 6Ml/d Water Treatment Works	95 981 760
3	**Sterkspruit - Refurbish high lift pumps and new electrical Sub Station**	Sterkspruit	Upgrade Existing	Upgrade/Refurbish high lift Pumps at the Sterkspruit WTW's	5 332 320
4	**Refurbishment of WTW infrastructure - Phase 2 - JGDM**	Burgersdorp	New Extension to Existing	seal old 2.5 ML reservoir at WTW	370 300
5	**Sterkspruit - Refurbish high lift pumps and new electrical Sub Station**	Sterkspruit	Upgrade Existing	New Electrical Mini Sub Station at Works	11 849 600
6	**Refurbishmnent of WTW infrastructure - Phase 2 - JGDM**	Ugie	Refurbishment	Refurbishment of Abstraction Point at WTW's	1 184 960
7	**Boreholes - Rhodes, Lady Grey, Rossouw**	Rossouw	Upgrade Existing	Upgrade ex Borehole to electrical/solar	
		Rossouw	New Extension to Existing	Installation of Bulk Water Meters	
		Rossouw	Upgrade Existing	Installation of Water Level Monitors	
		Rossouw	Upgrade Existing	Borehole siting, drilling and testing	
		Rossouw	New Extension to Existing	Equipping of new borehole	
		Rossouw	New Extension to Existing	Electrical Connection	1 895 936
8	**Ugie Refurbishment of Reticulation - Old Town**	Ugie	Refurbishment	Refurbishment of Reticulation in Old Town and Popcorn Valley	4 443 600

9	**Refurbishment of Bulk Pipeline from WTW to Shaft Reservoir -Oviston**	Oviston	Upgrade Existing	315mm dia PVC Pipeline (From WTW to Shaft Res)	19 544 434
10		Elundini	Upgrade Existing	Hydrological assessment and Regional Planning	888 720
11	**Refurbishment of WTW infrastructure - Phase 2 - JGDM**	Ugie	Refurbishment	Provisional amount to replace old pipes and valves at the WTW	236 992
12	**Refurbishment of WTW infrastructure - Phase 2 - JGDM**	Barkley East	Upgrade Existing	Upgrade Fencing at the holding dam	103 684
13		Ugie	Upgrade Existing	Review pre-chlorination: If needed, new shelter at raw water PS with chlorine dosing equipment	
	Refurbishment of WTW infrastructure - Phase 2 - JGDM	Ugie	Refurbishment	Provisional amount to replace old pipes and valves at the WTW	651 728
14	**Maclear AC Pipe Replacement**	Maclear	Refurbishment	Replace 75mmØ Steel pipelines	
		Maclear	Refurbishment	Replace 110mmØ Steel pipelines	
		Maclear	Refurbishment	Replace 160mmØ AC pipelines	12 907 888
15	**Jamestown AC Pipe Replacement**	Jamestown	Refurbishment	Replacement of AC pipelines (125mm dia.) - Bulks	
		Jamestown	Refurbishment	Replacement of Galv. Pipes (50mm dia.) - Bulks	
		Jamestown	Refurbishment	Replacement of Galv. Pipes (75mm dia.) - Bulks	
		Jamestown	Refurbishment	Replacement of AC pipelines (75mm dia.) - Reticulation	
		Jamestown	Refurbishment	Replacement of AC pipelines (100mm dia.) - Reticulation	
		Jamestown	Refurbishment	Replacement of AC pipelines (125mm dia.) - Reticulation	
		Jamestown	Refurbishment	Replacement of AC pipelines (150mm dia.) - Reticulation	7 621 378
16	**New Dam at - Ugie**	Ugie	New Extension to Existing	New Ugie Dam	112 867 440
17		Ugie	Upgrade Existing	Prentjiesberg Dam line to WTW: New bulk pipeline - 160mm PVC	
	Prentjiesberg Transfer Line - Ugie	Ugie	Upgrade Existing	Prentjiesberg Dam line to WTW: Transfer Pumps	3 399 354

18	**Borehole Upgrades - Elundini**	Elundini	Upgrade Existing	Boreholes Refurbishment/Electrification- Elundini North	
		Elundini	Upgrade Existing	Borehole Protection and Management - Elundini North	
		Elundini	Upgrade Existing	Boreholes Refurbishment/Electrification- Elundini Central	
		Elundini	Upgrade Existing	Borehole Protection and Management - Elundini Central	
		Elundini	Upgrade Existing	Boreholes Refurbishment/Electrification- Elundini South	
		Elundini	Upgrade Existing	Borehole Protection and Management - Elundini South	46 983 664
19	**Sedimentation Traps at Tina River - Elundini North**	Elundini	Upgrade Existing	Sedimentation Traps at Tina River - Elundini North	2 962 400
20	**Aliwal North WTP Off-Channel Dam (under Emergency Projects)**	Aliwal North	Refurbishment	Re-design & replace rotating half bridge with scraper mechanism on existing pre-sedimentation tanks	1 570 072
21	**Aliwal North WTP Off-Channel Dam (under Emergency Projects)**	Aliwal North	Water Resource Needs	Study and report - Raw water intake system	
		Aliwal North	Water Resource Needs	Provisional amount for modification of weir in the Orange River and inlet structure	1 629 320
22	**Elundini Source Refurbishments**	Elundini	Upgrade Existing	Refurbishment of Ncembu weir pump station - Elundini South	248 842
23	**Sterkspruit - Refurbish rising main line**	Sterkspruit	Upgrade Existing	Rising Main Line from WTW to Command Reservoir - New 600mm 2600m long line - 16 Bar	9 242 688
24	**Elundini Source Refurbishments**	Elundini	Upgrade Existing	Spring Protection at Embizeni - Elundini North	177 744
25	**Sterkspruit - Licenses for sources - fees**	Sterkspruit	Refurbishment	Water use licenses - Surface and Groundwater	287 500
26		Lady Grey	Refurbishment	De-siltation of Lady Grey Dam	1 421 952
27	**Steynsburg - Refurbishment of TeeBus Pumps**	Steynsburg	Refurbishment	Teebus Raw Water Pump Station Refurbishment	
		Steynsburg	Refurbishment	Refurbish valves and gauges - Teebus booster pump station	
		Steynsburg	Refurbishment	Renovate pump station building - Teebus Booster pump station	5 362 536
28	**Oviston Bulk Water Refurbishment**	Oviston	Upgrade Existing	315mm dia PVC Pipeline (From Abstraction to WTW) @ Oviston)	1 932 966
29		Oviston	Upgrade Existing	Refurbish the floating raw water pumpstation & replace the pumps with new pumps delivering 43 l/s	

	Oviston Bulk Water Refurbishment	Oviston	Upgrade Existing	Replace the raw water pumps at Fish River tunnel inlet (43 l/s)	
		Oviston	Refurbishment	Replace the leaking elevated storage tank	
		Oviston	Refurbishment	Refurbish or replace Valves at Shaft Reservoir	
		Oviston	Upgrade Existing	Upgrade Pumps at Lyciumville elevated Tanks	
		Oviston	New Extension to Existing	Bulk Water meter installation for Water Demand Management	2 033 688
30	**Steynsburg - AC Replacement**	Steynsburg	Refurbishment	Replace AC reticulation networks, 20mmØ	
		Steynsburg	Refurbishment	Replace AC reticulation networks, 100mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 20mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 50mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 100mmØ	
		Steynsburg	Refurbishment	Replace old AC pipelines, 100mmØ	
		Steynsburg	Refurbishment	Replace old GS pipelines, 100mmØ	3 023 100
31	**Ugie Filter Replacement**	Ugie	Refurbishment	Filter replacement	2 221 800
32	**New 3ML Reservoirs _ Ugie and Maclear**	Maclear	New Extension to Existing	Construction of new 3Ml terminal reservoir	8 553 930
33	**New 3ML Reservoirs _ Ugie and Maclear**	Ugie	New Extension to Existing	New 3 ML reservoir	5 694 506
34	**Bulk meter and Telemetry - JGDM**	Jamestown	New Extension to Existing	Installation of additional bulk meters	
		Jamestown	New Extension to Existing	Installation of additional zonal meters	2 740 220
35	**Steynsburg - New Connection Line**	Steynsburg	New Extension to Existing	Install new inter-connecting pipeline from purification works to new reservoir	2 666 160
36	**Burgersdorp - Harmonie Park Refurbishment**	Burgersdorp	New Extension to Existing	New 1ML Harmonie Reservoir, rising mains and gravity mains	5 184 200
37	**Sterkspruit Hydrological Study and Regional Planning - Fees**	Sterkspruit	New Extension to Existing	Regional Study for rural area - Including Hydrological Report	539 580
38		Rhodes	Refurbishment	Refurbish coagulant & chlorine dosing	

	Refurbishment of WTW infrastructure - Phase 2 - JGDM	Rhodes	Upgrade Existing	Alter the filter bottom pipework at outlet	129 457
39	**Bulk meter and Telemetry - JGDM**	Barkley East	Upgrade Existing	Installation of monitoring equipment at Boreholes	
40		Barkley East	Upgrade Existing	SCADA monitoring system at Boreholes	
	Bulk meter and Telemetry - JGDM	Barkley East	Upgrade Existing	Refurbishment of Bulk Water Meters at Boreholes	681 352
41	**Refurbishment of WTW infrastructure - Phase 2 - JGDM**	Lady Grey	Refurbishment	Major Refurbishment of Pump Station	666 540
42		Burgersdorp	Upgrade Existing	Refurbishment of Stormberg Spruit Pumpstation	
	Burgersdorp - Refurbishment of Stormbergspruit PS	Burgersdorp	New Extension to Existing	Telemetry -Primary control centre at WTW, local control centres, level censors on selected sumps and reservoirs	
43	**Burgersdorp - Refurbishment of Stormbergspruit PS**	Burgersdorp	New Extension to Existing	Installation of additional bulk and zonal meters for telemetry	1 999 620
44	**Bulk meter and Telemetry - JGDM**	Lady Grey	Refurbishment	Refurbishment of Bulk Water Meters	
		Lady Grey	New Extension to Existing	WDM - Bulk water meters	
		Lady Grey	New Extension to Existing	Zonal/Village Water Meters	871 686
45		Jamestown	New Extension to Existing	Installation of monitoring equipment at Boreholes	
	Bulk meter and Telemetry - JGDM	Jamestown	New Extension to Existing	SCADA monitoring system	1 036 840
46	**De-siltation of Rhodes Dam**	Rhodes	Refurbishment	De-silting of Rhodes Dam and service road upgrade	1 984 808
47	**Sterkspruit - New Sludge holding Ponds**	Sterkspruit	New Extension to Existing	Investigate positions and volume of sludge holding ponds	
		Sterkspruit	New Extension to Existing	New sludge holding pond	1 657 610
48		Mt Fletcher	New Extension to Existing	Bulk water meters	

	Bulk meter and Telemetry - JGDM	Mt Fletcher	New Extension to Existing	Zonal water meters	681 352
49	**Sterkspruit - Borehole Testing**	Sterkspruit	New Extension to Existing	Obtain yield data for boreholes and manage boreholes	4 443 600
50		Barkley East	Upgrade Existing	WDM - Bulk water meters	
	Bulk meter and Telemetry - JGDM	Barkley East	Upgrade Existing	WDM - Zonal/Village Water Meters	386 223
51		Rhodes	Upgrade Existing	Bulk water meters - WDM	
	Bulk meter and Telemetry - JGDM	Rhodes	Upgrade Existing	Zonal/Village water meters - WDM	207 368
52		Maclear	New Extension to Existing	Bulk water meters	
	Bulk meter and Telemetry - JGDM	Maclear	New Extension to Existing	Zonal water meters	565 448
53		Steynsburg	New Extension to Existing	Telemetry - Primary control centre at WTW, local control centres, level censors on selected sumps and reservoirs	
	Bulk meter and Telemetry - JGDM	Steynsburg	New Extension to Existing	Telemetry - Installation of additional bulk and zonal meters	852 157
54		Jamestown	Refurbishment	Refurbish the sedimentation tank outside at WTW	
		Jamestown	New Extension to Existing	10 000 l PVC storage tanks at WTW	
	Refurbishment of WTW infrastructure - Phase 2 - JGDM	Jamestown	New Extension to Existing	Steel structure and roof to cover plant - WTW	1 071 648
55	**Rossouw - 500kl Res**	Rossouw	New Extension to Existing	Install a 500 kℓ steel tank	1 309 450
56	**Boreholes - Rhodes, Lady Grey, Rossouw**	Rhodes	New Extension to Existing	Borehole siting, drilling and testing	
		Rhodes	New Extension to Existing	Equipping of borehole	
		Rhodes	New Extension to Existing	Rising main line	
		Rhodes	New Extension to Existing	Electricity	2 725 408

57	**Burgersdorp - WDM New Smart Meters**	Burgersdorp	New Extension to Existing	Installation of smart meter connections at hhs	6 872 768
58	**Boreholes - Rhodes, Lady Grey, Rossouw**	Lady Grey	New Extension to Existing	Testing of Boreholes	
		Lady Grey	New Extension to Existing	Installation of monitoring equipment at Boreholes	
		Lady Grey	New Extension to Existing	SCADA monitoring system	1 881 124
59		Elundini	New Extension to Existing	Future Reservoirs @ 72h storage - Elundini North	
		Elundini	New Extension to Existing	Future Reservoirs @ 72h storage - Elundini Central	
		Elundini	New Extension to Existing	Future Reservoirs @ 72h storage - Elundini South	92 236 201
60		Maclear	New Extension to Existing	New bulk pipelines	12 403 199
61		Maclear	New Extension to Existing	Sonwabile - New Reticulation Networks	30 638 622
62		Maclear	New Extension to Existing	New 0,5Ml Small Holdings Reservoir	
		Maclear	New Extension to Existing	New 0,5Ml Greenfields Reservoir	4 665 780
63		Maclear	New Extension to Existing	Clearview - New Reticulation Networks	9 487 086
64		Maclear	New Extension to Existing	Tivi Park - New Reticulation Networks	5 909 988
65		Maclear	New Extension to Existing	Small Holdings - New Reticulation Networks	7 154 196
66		Maclear	New Extension to Existing	Motwendala - New Reticulation Networks	7 931 826
67		Maclear	New Extension to Existing	Mocaba Park - New Reticulation Networks	10 420 242
68		Aliwal North	Upgrade Existing	200mm dia. Bulk Gravity Main to Hilton Reticulation	
		Aliwal North	Upgrade Existing	Hilton Zone 1 Reticulation	9 998 026
69		Sterkspruit	New Extension to Existing	Enlarge and refurbish Main Sterkspruit WTW	154 044 800
70		Ugie	New Extension to	New sedimentation tank at the WTW's	1 832 985

			Existing		
71		Sterkspruit	New Extension to Existing	Kwamundu, Hkhuza, Edwaleni, Matafazineni - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Nxamagele, Kwarob, Mazizini - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Kwaradebe & Mdlabona - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Etyinindini & Rietfontein - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Pelandaba - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Forthook - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Blikana - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Boomplaas - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Sprinkaanspoort - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Mfinci - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Rock Cliff - Bulk pipe, reservoir & reticulation upgrades	72 852 753
72		Barkley East	Refurbishment	Replacement of Bulk AC Pipelines - AC pipelines - 50mm dia	
		Barkley East	Refurbishment	Replacement of Bulk AC Pipelines - AC pipelines - 150mm dia	
		Barkley East	Refurbishment	Replacement of Reticulation AC Pipelines - AC pipelines - 50mm dia	
		Barkley East	Refurbishment	Replacement of Reticulation AC Pipelines- AC pipelines - 75mm dia	
		Barkley East	Refurbishment	Replacement of Reticulation AC Pipelines - AC pipelines - 125mm dia	
		Barkley East	Refurbishment	Replacement of Reticulation AC Pipelines - AC pipelines - 150mm dia	7 605 695
73		Aliwal North	Upgrade Existing	Aliwal North Zone 1 Reticulation	
		Aliwal North	Upgrade Existing	150 dia. Rising Main to Dukathole SP Reservoir	20 061 343
74		Barkley East	New Extension to Existing	Incorporate Commonage Dam- Piping - Transfer line from Dam to WTW	
		Barkley East	New Extension to Existing	Incorporate Commonage Dam - Pumping line from raw water source to Dam	
		Barkley East	New Extension to	Incorporate Commonage Dam - Transfer Pump at Dam	841 914

			Existing		
75		Sterkspruit	New Extension to Existing	Palmietfontein-Nomlengane; 27 Villages - Bulk pipe, reservoir & reticulation upgrades	153 777 920
76		Sterkspruit	New Extension to Existing	Mbobo Ward - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Dulcies Nek - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Maralaneng - Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Mlamli- Bulk pipe, reservoir & reticulation upgrades	
		Sterkspruit	New Extension to Existing	Joveleni, Voyizana & Hinina- Bulk pipe, reservoir & reticulation upgrades	29 947 633
77		Elundini	New Extension to Existing	Black Fountain Weir - Elundini North	
		Elundini	New Extension to Existing	Black Fountain Source pipeline - Elundini North	
		Elundini	New Extension to Existing	Black Fountain Reservoir - Elundini North	
		Elundini	Refurbishment	Access Road at Phirintsu - Elundini North	6 381 050
78		Aliwal North	New Extension to Existing	New 400kl Elevated Tank at Springs	
		Aliwal North	New Extension to Existing	New 1.2ML Reservoir at Springs	6 550 243
79		Sterkspruit	Upgrade Existing	Upgrade/Refurbish Booster pump stations - 37kw Motors @ 22l/s - 4 pumps per station	10 664 640
80		Sterkspruit	Upgrade Existing	Upgrade diesel driven pumps in rural areas to electricity/solar	10 664 640
81		Oviston	Upgrade Existing	250mm dia uPVC gravity main line from Settling Ponds to WTW's)	
		Oviston	Refurbishment	Replacement of AC/Steel reticulation pipelines - Oviston	
		Oviston	Refurbishment	Replacement of AC/Steel reticulation pipelines - Venterstad	9 328 598
82		Steynsburg	Refurbishment	Replace AC reticulation networks, 20mmØ	
		Steynsburg	Refurbishment	Replace AC reticulation networks, 100mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 20mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 50mmØ	
		Steynsburg	Refurbishment	Replace GS reticulation networks, 100mmØ	

		Steynsburg	Refurbishment	Replace old AC pipelines, 100mmØ	
		Steynsburg	Refurbishment	Replace old GS pipelines, 100mmØ	5 918 120
83		Aliwal North	Upgrade Existing	Sludge de-watering & disposal system	
		Aliwal North	Upgrade Existing	Increase raw water pump capacity	
		Aliwal North	Refurbishment	Refurbish existing sand filters	
		Aliwal North	Upgrade Existing	Extend or construct a new clear water PS to increase the pump capacity	24 490 901
84		Aliwal North	New Extension to Existing	New 2ML Bulk Reservoirs - Dukhathole and Hilton (ANMUDS)	8 460 914
85		MtFletcher	New Extension to Existing	Water reticulation - Areas 2, 4, 6 & 7	175 272 197
86		Burgersdorp	Upgrade Existing	Consulting feasibility fee for phased capacity increase in available raw water quantity	
		Burgersdorp	Upgrade Existing	Consulting feasibility fee for pre-sedimentation investigation and proposal	
		Burgersdorp	Upgrade Existing	Consulting fee for preliminary design of extention to WTW	
		Burgersdorp	Upgrade Existing	Add pre-sedimentation to WTW (provisional)	3 125 332
87		Aliwal North	New Extension to Existing	New Clear Water Sump at WTW's Sites (ANMUDS)	6 017 415
88		Ugie	New Extension to Existing	New 3 ML reservoir	5 694 506
89		Aliwal North	Upgrade Existing	Upgrade Pump Station at Main Reservoir to Springs	1 707 230
90		Burgersdorp	Refurbishment	Replace old AC bulk pipelines in Old Town	19 907 328
91		MtFletcher	Refurbishment	Replace lateral pipework & media in 3 filters	328 826
92		Elundini	New Extension to Existing	Infills - Elundini North	
		Elundini	New Extension to Existing	Metered house connections - Elundini North	
		Elundini	New Extension to Existing	Infills - Elundini Central	
		Elundini	New Extension to Existing	Metered house connections - Elundini Central	
		Elundini	New Extension to Existing	Infills - Elundini South	
		Elundini	New Extension to Existing	Metered house connections - Elundini South	624 683 362

93		Rossouw	Refurbishment	Replacement of Galvanised Steel pipeline	159 970
94		Sterkspruit	Upgrade Existing	New rising Main line from Jozana Dam to WTW - 800mm PVC	78 799 840
95		Steynsburg	New Extension to Existing	Lined waste water sedimentation dam with sludge draw off to the sludge drying beds and top water recirculation	844 284
96		Aliwal North	Upgrade Existing	Dukathole SP Zone 2 Reticulation	26 433 791
97		Burgersdorp	Refurbishment	Repairs to JL de Bruin Dam	4 443 600
98		Burgersdorp	Upgrade Existing	Refurbishment and Improvements - Chiapinni's Klip Dam 1 overflow weir	10 368 400
99		Lady Grey	New Extension to Existing	New 2 ML steel tank	4 230 457
100		Sterkspruit	New Extension to Existing	Mareteng extention - Bulk pipe, reservoir & reticulation upgrades	15 641 472
101		Lady Grey	Refurbishment	Replacement of Steel Bulk Pipelines - 250mm dia	
		Lady Grey	Refurbishment	Replacement of AC Reticulation Pipelines - 50mm dia	
		Lady Grey	Refurbishment	Replacement of AC Reticulation Pipelines - 75mm dia	
		Lady Grey	Refurbishment	Replacement of AC Reticulation Pipelines - 100mm dia	871 908
102		MtFletcher	New Extension to Existing	Water reticulation - Areas 1, 3 & 5	51 233 055
103		Aliwal North	Upgrade Existing	Aliwal North Zone 3 Reticulation	16 793 920
104		Aliwal North	New Extension to Existing	Bulk meters and logging	6 978 081
105		Jamestown	New Extension to Existing	Provide an additional 400kl storage	1 050 171
106		Barkley East	New Extension to Existing	New 2 ML steel tank	4 230 457
107		Burgersdorp	New Extension to Existing	Construction of pump station for Thembisa and new Harmonie reservoirs	1 777 440
108		Burgersdorp	New Extension to Existing	Installation of smart meter connections at hhs	34 363 840
109		Lady Grey	New Extension to Existing	Add 1.3ML/day capacity at the WTW	10 819 200
110		Lady Grey	New Extension to Existing	Construction of Zachtevlei Dam	235 656 288
111		Aliwal North	Upgrade Existing	Hilton Zone 2 Reticulation	8 335 986
112		Rhodes	New Extension to Existing	Consulting Engineers fee for raw water availability report	

		Rhodes	New Extension to Existing	New weir at the Bell River	
		Rhodes	New Extension to Existing	New pump station at weir	
		Rhodes	New Extension to Existing	Pump set and Motors	
		Rhodes	New Extension to Existing	New Rising main line	
		Rhodes	New Extension to Existing	Electricity	6 072 920
113		Rhodes	New Extension to Existing	Holding Dam (36 ML)	11 849 600

LONG TERM: WATER				
Term	**Master Plan**	**Infrastructure needs**	**Description**	**Total Project Costs**
1	Oviston	New Extension to Existing	1 Ml/day extension to water treatment plant	18 515 000
2	Burgersdorp	New Extension to Existing	5 ML/day extension to WTP	77 022 400
3	Mt Fletcher	Upgrade Existing	Improve raw water storage to 3 months	91 982 520
4	Sterkspruit	Upgrade Existing	Bensonvale - AC Replacement	14 132 969
5	Elundini	Upgrade Existing	Refurbishment/Upgrade of Tokwana WTW - Elundini North	
	Elundini	Upgrade Existing	Tokwana Off-Storage Dam Hydrological Assessment - Elundini North	
	Elundini	Upgrade Existing	Kinira WTW 8ML Upgrade - Elundini North	
	Elundini	New Extension to Existing	Kinira WTW Rising Main - Elundini North	
	Elundini	New Extension to Existing	New bulk booster P/S - Elundini North	
	Elundini	New Extension to Existing	Future Luzi WTW - Elundini North	
	Elundini	New Extension to Existing	Kinira WTW 5ML Upgrade by 2040 - Elundini North	
	Elundini	New Extension to Existing	Setaka BPT - Elundini North	
	Elundini	New Extension to Existing	Future command reservoirs - Elundini North	
	Elundini	New Extension to Existing	Bulk Piping - Elundini North	524 617 944
6	Sterkspruit	Upgrade Existing	Kwandofela - AC Replacement	
	Sterkspruit	Upgrade Existing	Mokhesi - AC Replacement	
	Sterkspruit	Upgrade Existing	Sterkspruit - AC Replacement	
	Sterkspruit	Upgrade Existing	Sterkspruit - AC Replacement	
	Sterkspruit	Upgrade Existing	Thaba Lesoba - AC Replacement	
	Sterkspruit	Upgrade Existing	Voyizane - AC Replacement	14 102 187
7	Sterkspruit	Upgrade Existing	Dondolo - AC Replacement	
	Sterkspruit	Upgrade Existing	Esilindini - AC Replacement	
	Sterkspruit	Upgrade Existing	Herschel - AC Replacement	10 870 527
8	Burgersdorp	Upgrade Existing	Desilting and construction of silt traps - JL de Bruin Dam	59 248 000
9	Maclear	New Extension to Existing	Upgrading of Maclear Dam capacity	109 608 800

10	Elundini	New Extension to Existing	New weir at future spring - Elundini Central	
	Elundini	New Extension to Existing	Future Spring protection - Elundini Central	
	Elundini	New Extension to Existing	New Tsitsa dam - Elundini Central	
	Elundini	New Extension to Existing	New WTW at Tsitsa River - Elundini Central	
	Elundini	New Extension to Existing	Future bulk booster P/S - Elundini Central	
	Elundini	New Extension to Existing	Future command reservoirs - Elundini Central	
	Elundini	New Extension to Existing	Bulk Piping - Elundini Central	358 274 948
11	Mt Fletcher	Upgrade Existing	Bulk pipeline upgrades - Areas 2, 4, 6 & 7	12 380 997
12	Mt Fletcher	Upgrade Existing	Bulk pipeline upgrades - Areas 1, 3 & 5	9 467 832
13	Sterkspruit	Upgrade Existing	Jozana's Hoek - AC Replacement	34 887 222
14	Elundini	New Extension to Existing	New Umnga WTW	
	Elundini	New Extension to Existing	New Ncembu weir	
	Elundini	New Extension to Existing	Future command reservoirs	
	Elundini	New Extension to Existing	Bulk piping	41 550 777
15	Aliwal North	New Extension to Existing	refurbish raw water pump station	5 924 800
16	Aliwal North	New Extension to Existing	New raw water PS at Orange River	
	Aliwal North	New Extension to Existing	1.5 ha New property purchase for new 5 ML/day WTP	
	Aliwal North	New Extension to Existing	Terrain development & access roads	
	Aliwal North	New Extension to Existing	New 5 ML/day WTP	101 610 320
17	Mt Fletcher	Upgrade Existing	Upgrading of water treatment works	133 962 987
18	Burgersdorp	Upgrade Existing	Extension of existing raw water pump station and improvements to sump inlets - Chiapinni's Klip Dam: Phase 2	
	Burgersdorp	Upgrade Existing	Installation of storm pumps - Chiapinni's Klip Dam: Phase 2	
	Burgersdorp	Upgrade Existing	Raise existing causeway 1m - Chiapinni's Klip Dam: Phase 2	
	Burgersdorp	Upgrade Existing	Pipelines between pump station and dam - Chiapinni's Klip Dam: Phase 2	
	Burgersdorp	Upgrade Existing	Equip and link Chiapinni's Klip boreholes to Stormberg Spruit Sump - Chiapinni's Klip Dam: Phase 2	10 072 160
19	Steynsburg	New Extension to Existing	Additional 1.4ML Bulk Storage Reservoir	2 814 280
20	Barkley East	New Extension to Existing	New 2 ML steel tank	4 230 457
21	Steynsburg	New Extension to Existing	Teebus Raw Water Pump Station - Design and construction of a plant to remove the sand and a	16 293 200

			new pump station	
22	Jamestown	New Extension to Existing	Drilling and equipping monitoring bh's	
	Jamestown	New Extension to Existing	Drilling and equipping additional bh's	2 132 928
23	Lady Grey	New Extension to Existing	New 4 ML steel tank	7 192 857
24	Oviston	New Extension to Existing	250Kl reservoir at Oviston	
	Oviston	New Extension to Existing	1 ML Reservoir at Lyciumville Township	3 258 640
25	Rossouw	New Extension to Existing	Install a 500 kℓ steel tank	1 309 450

SANITATION

Project Name- SANITATION	Priority	Master Plan	Infrastructure Needs	Component	Description	Total Project Cost
Upgrading of Sanitation Services for Ugie	1	Ugie	New Extension to Existing	WWTW	Refurbishment of existing WWTW	4 927 064
	2	Ugie	New Extension to Existing	Pump station	Pumpstation and sump (PS2) at Ugie Park	
Upgrading of Sanitation Services for Ugie		Ugie	New Extension to Existing	Bulk	Bulk Sewer: Ugie PS2 to Old WWTW	9 681 343
Upgrading of Sanitation Services for Ugie	3	Ugie	New Extension to Existing	Reticulation	Sewer reticulation networks: Ugie park and Ugie park extension	14 958 908
	4	Burgersdorp	Refurbishment	WWTW	Refurbish WWTW - Electrical and Mechanical	
Burgersdorp Sanitation Refurbishment		Burgersdorp	Refurbishment	WWTW	Refurbish WWTW - Security	8 015 028
	5	Venterstad	Refurbishment	WWTW	Temporary sludge lagoon for by-pass flow - Venterstad WWTW	
		Venterstad	Refurbishment	WWTW	Temporary sludge lagoon for reactor clean-out - Venterstad WWTW	
		Venterstad	Refurbishment	WWTW	Divert incoming flow and clean-out reactors - Venterstad WWTW	
		Venterstad	Refurbishment	WWTW	Refurbish or replace brush aerators - Venterstad WWTW	
		Venterstad	Refurbishment	WWTW	Refurbish bottom mixer - Venterstad WWTW	
		Venterstad	Upgrade Existing	WWTW	Hydrostal submersible pump with hose & Gen - Venterstad WWTW	
Refurbishment of WWTW - Oviston, Steynsburg, Venterstad		Venterstad	Upgrade Existing	WWTW	Complete new brush aerator - Venterstad WWTW	2 689 859
Refurbishment of WWTW - Mt Fletcher, Maclear, Sterkspruit, Barkly East	6	Mt Fletcher	Refurbishment	WWTW	Rehabilitation of the existing ponds	2 962 400
Barkly East - Sewer Replacement	7	Barkley East	Upgrade Existing	Bulk Sewer	Replace Gravity Bulk Line - Fairview to WWTW2 (new Ponds) 315mm dia	2 903 152
	8	Oviston	New Extension to Existing	WWTW	Construct a 80 kl equalization tank at the works - Oviston WWTW	
		Oviston	New Extension to Existing	WWTW	Establish a temporary pond as oxidation pond - Oviston WWTW	
Refurbishment of WWTW - Oviston, Steynsburg, Venterstad		Oviston	Refurbishment	WWTW	Empty, clean and repair reactor structure - Oviston WWTW	1 030 175

	9	Aliwal North	New Extension to Existing	WWTW	WWTW 1 and 2: Install Inline grinder and canal infront of inlet works	
		Aliwal North	Refurbishment	WWTW	WWTW 1 and 2: New mechanical raked screen	
		Aliwal North	Upgrade Existing	WWTW	WWTW 1 and 2: Alter & rebuilt grit canals with emergency by-pass with hand raked screen	
		Aliwal North	Refurbishment	WWTW	WWTW 1: Refurbish mechanical equipment: Floating surface aerators, RAS pumps, a Recycle pumps	
Refurbishment of WWTW - Aliwal North		Aliwal North	Upgrade Existing	WWTW	WWTW 1: Modify suction lift sedimentation tank	2 851 310
	10	Aliwal North	Refurbishment	WWTW	WWTW 2: Replace or refurbish brush surface aerator	
		Aliwal North	Refurbishment	WWTW	WWTW 2: Refurbish all pumps and mixers	
		Aliwal North	New Extension to Existing	WWTW	WWTP 2: Purchace an inclined floating impeller aerator to use as standby unit when one of the brush aerators are out of commission	
		Aliwal North	Refurbishment	WWTW	WWTP 2: Appoint a dredging contractor to remove the sludge deposit in all the reactors and sedimentation tank	
Refurbishment of WWTW - Aliwal North		Aliwal North	New Extension to Existing	WWTW	WWTP 2: Install a 120 kVA standby generator and change the starting gear of one of the brush aerators to a VSD drive	2 907 596
	11	Aliwal North	Upgrade Existing	Sewer	New sewer between Hilton and Robinson Street which extends along Glebe street	
		Aliwal North	Upgrade Existing	Sewer	New sewer along Mosheshwe street and Seboloa Street to pump station (PS) 1	
		Aliwal North	Upgrade Existing	Sewer	New Bulk sewer leading towards VULA VALA (VV) PS	
		Aliwal North	Upgrade Existing	Sewer	New sewer to be installed surrounding the cemetery	
Aliwal North Sewer Replacement - Phase 1		Aliwal North	Upgrade Existing	Sewer	New sewer from Vulamazibuko School to join directly to main 400 dia. bulkline adjacent to the river	6 856 322
	12	Sterkspruit	Refurbishment	WWTW	Clean and Refurbish Package Plant - Sterkspruit	
Refurbishment of WWTW - Mt Fletcher, Maclear, Sterkspruit, Barkly East		Sterkspruit	Refurbishment	WWTW	Service and set-up for lower inflow - Jozana	2 680 972

	13	Aliwal North	Upgrade Existing	Sewer	Replace pipelines within G Block with new pipes	
Aliwal North Sewer Replacement - Phase 1		Aliwal North	Upgrade Existing	Sewer	Replace pipeline in Area 13 leading towards the pumpstation	4 375 422
Refurbishment of WWTW - Mt Fletcher, Maclear, Sterkspruit, Barkly East	**14**	Maclear	Refurbishment	WWTW	Refurbish out of commission aerator	170 338
	15	Aliwal North	Upgrade Existing	WWTW	Replace the aeration system on WWTP 1	
Refurbishment of WWTW - Aliwal North		Aliwal North	Upgrade Existing	WWTW	Install 3 screw type mixing pumps at bottom of anaerobic tank 1 at WWTP 2	3 101 633
	16	Steynsburg	Refurbishment	WWTW	Refurbish brush aerator & re-commission - WWTW	
Refurbishment of WWTW - Oviston, Steynsburg, Venterstad		Steynsburg	Refurbishment	WWTW	Remove, repair & re-install top water sludge - WWTW	1 155 336
Refurbishment of WWTW - Aliwal North	**17**	Aliwal North	New Extension to Existing	WWTW	WWTW 1: Add a 10 m Ø inclined bottom sedimentation tank with rotating half bridge	5 124 952
	18	Barkley East	Refurbishment	WWTW	Clean the anaerobic ponds - New Ponds	
		Barkley East	Upgrade Existing	WWTW	Re-direct the sewage flow path - New Ponds	
Refurbishment of WWTW - Mt Fletcher, Maclear, Sterkspruit, Barkly East		Barkley East	Refurbishment	WWTW	Clean the anaerobic ponds - Old Ponds	2 308 450
	19	Barkley East	Refurbishment	WWTW	Refurbish existing fencing and gate - New Ponds	
Refurbishment of WWTW - Mt Fletcher, Maclear, Sterkspruit, Barkly East		Barkley East	Upgrade Existing	WWTW	Fencing (ponds at WWTW and gholf course ponds) - Old Ponds	2 014 432

SHORT-MEDIUM: SANITATION						
Project Name-SANITATION	Priority	Master Plan	Infrastructure Needs	Component	Description	Total Project Cost
Mount Fletcher - New WWTW's	**1**	Mt Fletcher	New Extension to Existing	WWTW	New 4.7Mℓ/d WWTW (Phase 1)	92 301 393
	2	Maclear	Refurbishment	Reticulation	Maclear Town - Reticulation	
Maclear Town and Sithole Refurbishment		Maclear	Refurbishment	Reticulation	Sithole Township - Reticulation	32 439 755
Steynsburg Sanitation upgrade	**3**	Steynsburg	Upgrade Existing	Bulk	Relay the bulk outfall sewer, from the old Steynsburg town, around the Zwelitsha township	1 073 129
	4	Aliwal North	Upgrade Existing	Sewer	New Pipeline from Maletswai Clinic to join the 250 dia. Bulk line	
		Aliwal North	Upgrade Existing	Sewer	Replace existing pipeline in Hilton with a new pipeline to join the new 200 dia. pipeline that was installed	
		Aliwal North	Upgrade Existing	Sewer	New pipelines to be installed in Smith and Margaret street	
		Aliwal North	Upgrade Existing	Sewer	Replace existing midblock pipeline in Johanna Strt	
Aliwal North Sewer Replacement - Phase 2		Aliwal North	Upgrade Existing	Sewer	New pipelines to be installed in Arbour View	6 120 896
	5	Burgersdorp	New Extension to Existing	Pump Station	Fencing at Pump Stations	
		Burgersdorp	New Extension to Existing	Pump Station	Grinders/Munchers at Pump Stations	
		Burgersdorp	Refurbishment	Pump Station	Refurbish pumps at Pump Stations	
		Burgersdorp	New Extension to Existing	Pump Station	Upgrade Pump stations to Grid System	
		Burgersdorp	New Extension to Existing	Pump Station	Surface Mount Priming Pumps (4 sets of 3 pumps)	
		Burgersdorp	New Extension to Existing	Pump Station	Pump station extensions to house pump	
Burgersdorp Sanitation Refurbishment - Ph2		Burgersdorp	New Extension to Existing	Pump Station	Generators	12 962 027
Steynsburg Sanitation upgrade	**6**	Steynsburg	New Extension to Existing	WWTW	Install a 150 kVA standby generator - WWTW	481 390
Sterkspruit - New 4.5 ML/day WWTW	**7**	Sterkspruit	Backlogs	WWTW	Construct new 4.5 ML/day WWTW	140 485 155
Barkly East - New Ponds	**8**	Barkley East	New Extension to Existing	WWTW	Upgrade the new ponds to 1.7ML/day - New Ponds	9 301 936

Senqu Rural Sanitation Programme: Phase 4&5	**9**	Sterkspruit	Backlogs	VIP	Construction of VIP Units	35 541 930
Senqu Rural Sanitation Programme: Phase 4&5	**10**	Elundini Rural	Backlogs	VIP	Construction of VIP Units	28 859 382
	11	Mt Fletcher	Backlogs	Reticulation	Sewer reticulation for Areas 1, 3 and 5	
Mt Fletcher - Sewer Reticulation to Areas 1,3,5		Mt Fletcher	Backlogs	Reticulation	Decommissioning of VIP toilets and conservancy tanks for reticulated areas	38 814 508
Mt Fletcher - Bulk Sewer to Areas 1,3,5	**12**	Mt Fletcher	Backlogs	Bulk Supply	Bulk sewer for Areas 1, 3 and 5	48 780 130
Refurbish Rhodes - VIPs	**13**	Rhodes	New Extension to Existing	VIP	Refurbish VIPs	3 821 496
Burgersdorp - Sewer line upgrade - Mzamamhle	**14**	Burgersdorp	New Extension to Existing	Bulk	Sewer line upgrade - Mzamomhle	3 199 593
	15	Aliwal North	New Extension to Existing	WWTW	WWTW1 and 2: Construct a sedimentation tank sludge thickener for sludge draw off	
		Aliwal North	New Extension to Existing	WWTW	WWTW1 and 2: Construct a sludge de-watering facility with covered sludge storing area	
		Aliwal North	New Extension to Existing	WWTW	WWTW1 and 2: Establish a sludge composting or fertilizer modification facility and sub-contract to a private enterpeneur	
Aliwal North - WWTWs upgrade		Aliwal North	Upgrade Existing	WWTW	WWTW2: Install a small submersible pump to pump the mixed liqour to the sedimentation tank when both brush aerators is out of commission	11 180 098
Aliwal North - Sewer Upgrade	**16**	Aliwal North	Upgrade Existing	Sewer	New 200mm Rising Main from Dukathole to WWTW (ANMUDS)	1 418 064
	17	Aliwal North	New Extension to Existing	WWTW	WWTW1 and 2: Enlarge chlorine dosing and storage room	
Aliwal North - WWTWs upgrade		Aliwal North	New Extension to Existing	WWTW	WWTW1 and 2: New chlorine dosing apparatus and 900 kg cylinder deposit	1 276 794
Lady Grey Refurbishment - WWTW	**18**	Lady Grey	New Extension to Existing	WWTW	security & fencing at WWTW2	2 132 928
	19	Barkley East	Upgrade Existing	WWTW	Enlarge primary dam - Old Ponds	
		Barkley East	Upgrade Existing	WWTW	Alter the inlet works - Old Ponds	
		Barkley East	Upgrade Existing	WWTW	New Ablutions and staff office - Old Ponds	
		Barkley East	Refurbishment	WWTW	Refurbish existing buildings, security and safety railing - Old Ponds	
		Barkley East	Upgrade Existing	WWTW	Flow Measuring - Old Ponds	

		Barkley East	Refurbishment	WWTW	Refurbish irrigation to gholf course - Old Ponds	
		Barkley East	Refurbishment	WWTW	Refurbish buchet wash area - Old Ponds	
		Barkley East	Upgrade Existing	WWTW	Emergency Spillways - New Ponds	
		Barkley East	Refurbishment	WWTW	Refurbish Irrigation - New Ponds	
		Barkley East	Refurbishment	WWTW	Refurbish head of works screen - New Ponds	
		Barkley East	New Extension to Existing	WWTW	New Ablutions, staff office and paving - New Ponds	
		Barkley East	Upgrade Existing	WWTW	Flow Measuring - New Ponds	
Barkly East - WWTW Refurbishment		Barkley East	Refurbishment	WWTW	Refurbish security and safety railing - New Ponds	7 169 008
	20	Aliwal North	Upgrade Existing	Sewer	Remove sewer connection to the end property from manhole in Area 13 and install a french drain and septic tank for the property.	
Aliwal North - Sewer Upgrade		Aliwal North	Upgrade Existing	Sewer	Replace 6 existing pipelines at Springs with new pipelines	1 240 841
Burgersdorp - Sedimentation Tank	**21**	Burgersdorp	New Extension to Existing	WWTW	Construct additional Sedimentation Tank at Treatment Works	1 777 440
	22	Lady Grey	New Extension to Existing	WWTW	Re-design and install new pumpstation with security PS building and small standby generator in building at ponds	
		Lady Grey	New Extension to Existing	WWTW	Install ± 5 l/s PS at river for water circulation to ponds	
Lady Grey Refurbishment - WWTW		Lady Grey	Refurbishment	WWTW	Refurbish Bucket Dumping site (Temporary)	1 733 004
Aliwal North - WWTWs upgrade	**23**	Aliwal North	Upgrade Existing	WWTW	Terrain development, access roads and improved security	3 925 180

MEDIUM-TERM: SANITATION

Priority	Master Plan	Infrastructure Needs	Component	Description	Total Project Cost
1	Lady Grey	New Extension to Existing	Reticulation	Eradicate the Bucket System - new sewer lines and man holes	
	Lady Grey	Upgrade Existing	Reticulation	Refurbish sewer Transwilger	
	Lady Grey	Upgrade Existing	Reticulation	Top structures at Transwilger	
	Lady Grey	Upgrade Existing	Bulk Supply	Upgrade bulk lines in Town (to WWTW1)	6 378 047
2	Oviston	New Extension to Existing	WWTW	Add additional capacity of 200 kL/day to Oviston WWTW	6 221 040
3	Burgersdorp	Upgrade Existing	Bulk	Bulk AC Sewer Replacement	9 479 680
4	Ugie	New Extension to Existing	Pump station	Pumpstation and sump (PS1)	
	Ugie	New Extension to Existing	Bulk	Bulk Supply: Ugie PS1 to PS2 Bulk line	
	Ugie	New Extension to Existing	Bulk	Bulk Supply: Ugie park PS2 to new WWTW	
	Ugie	New Extension to Existing	Pump station	Upgrade of pumps at existing PS2	26 457 233
5	Ugie	New Extension to Existing	Reticulation	Sewer reticulation networks: Dyoki and Landcamp	
	Ugie	New Extension to Existing	Reticulation	Sewer reticulation networks: Ugie town	20 531 942
6	Ugie	New Extension to Existing	Reticulation	Sewer reticulation networks: JK Bokwe, Ntokozweni, Mandela park	24 341 704
7	Mt Fletcher	Backlogs	Reticulation	Sewer reticulation for Areas 2, 4, 6 & 7	
	Mt Fletcher	Backlogs	Reticulation	Decommissioning of VIP toilets and conservancy tanks for reticulated areas	132 787 400
8	Sterkspruit	Backlogs	VIP	Construction of VIP Units	35 541 930
9	Elundini Rural	Backlogs	VIP	Construction of VIP Units	28 859 382
10	Sterkspruit	Backlogs	Reticulation	Servicing more households in order to generate more flow WWTW2 - Herschel	19 596 276
11	Ugie	New Extension to Existing	WWTW	New Ugie WWTW by 2.6ML/day	81 762 240
12	Sterkspruit	Backlogs	Bulk Supply	Bulk Infrastructure to Sterkspruit & Tapoleng	103 684 000
13	Sterkspruit	Backlogs	Reticulation	Sewer Reticulation to Sterkspruit & Tapoleng	107 090 760
14	Barkley East	New Extension to Existing	Bulk Sewer	Refurbishment of Manholes	379 187
15	Steynsburg	New Extension to Existing	WWTW	Purchase a complete new brush aerator and small sludge pump - WWTW	811 698
16	Venterstad	Upgrade Existing	WWTW	Install a screw type pump in the anaerobic tank to assist to get settled sludge in suspension after a long mixer failure - Venterstad WWTW	
	Venterstad	New Extension to Existing	WWTW	Purchase a inclined, floating impeller aerator to use as standby when a brush aerator is	644 322

				out of commission - Venterstad WWTW	
17	Barkley East	Upgrade Existing	Bulk Sewer	200mm dia - New Gravity Bulk Line for 198 low income housing	2 799 468
18	Barkley East	New Extension to Existing	WWTW	New Irrigation system at old ponds	444 360
19	Aliwal North	Upgrade Existing	WWTW	WWTW1: Investigate the possibility to replace the floating surface aerators with a fine bubble aeration system or a fixed surface aerator system (Professional fee only)	
	Aliwal North	Upgrade Existing	WWTW	WWTW2: : Investigate an alteration for the sludge draw off or sludge mixing on anaerobic tank 1	37 030

LONG-TERM: SANITATION					
Priority	Priority	Priority	Priority	Priority	Priority
1	Burgersdorp	New Extension to Existing	Pump Station	Eureka PS - Holding Dam	
	Burgersdorp	New Extension to Existing	Pump Station	Burgersdorp PS - Holding Dam	
	Burgersdorp	New Extension to Existing	Pump Station	Thembisa PS1 - Holding Dam	
	Burgersdorp	New Extension to Existing	Pump Station	Thembisa PS2 - Holding Dam	
	Burgersdorp	New Extension to Existing	Pump Station	Mzamomhle PS1 - Holding Dam	
	Burgersdorp	New Extension to Existing	Pump Station	Mzamomhle PS2 - Holding Dam	11 809 422
2	Elundini Rural	Backlogs	VIP	Construction of VIP Units	62 567 141
3	Sterkspruit	Backlogs	VIP	Construction of VIP Units	55 833 282
4	Sterkspruit	Backlogs	Reticulation	Sewer Reticulation to Esilindini and Mokhesi	120 717 800
5	Sterkspruit	Backlogs	Bulk Supply	Bulk Infrastructure to Esilindini and Mokhesi	207 368 000
6	Rhodes	New Extension to Existing	Bulk Supply	Intermediate Pump stations	13 330 800
7	Rhodes	New Extension to Existing	WWTW	New Ponds - WWTW	23 699 200
8	Rhodes	New Extension to Existing	Bulk Supply	New 160mm Dia sewer - Rhodes Town	
	Rhodes	New Extension to Existing	Bulk Supply	New 160mm Dia sewer - Zakhele	
	Rhodes	New Extension to Existing	Bulk Supply	New 160mm Dia sewer - Zakhele new housing	
	Rhodes	New Extension to Existing	Bulk Supply	New 315mm Dia sewer	
	Rhodes	New Extension to Existing	Bulk Supply	Manholes	14 468 362
9	Sterkspruit	Backlogs	WWTW	Extend WWTW to 8 ML/day	166 291 732
10	Venterstad	Upgrade Existing	WWTW	Water borne sewer to old town	
	Venterstad	New Extension to Existing	WWTW	Bulk sewer supply	11 425 681
11	Ugie	New Extension to Existing	WWTW	Extend New Ugie WWTW by 1.2ML/day	28 957 460
12	Lady Grey	New Extension to Existing	WWTW	New Works (4.2 ML/day)	99 536 640
13	Barkley East	New Extension to Existing	WWTW	Add a effluent re-circulation scheme at both pond systems	533 232
14	Steynsburg	New Extension to Existing	WWTW	New equalization dam with aeration - WWTW	
	Steynsburg	New Extension to Existing	WWTW	New grinder at inlet canal - WWTW	1 507 862
15	Barkley East	New Extension to Existing	WWTW	Upgrade the old ponds to 1.6ML/day	14 737 940

ANNEXURE F
EASTERN CAPE DEPARTMENT OF HUMAN SETTLEMENTS HOUSING PROJECTS: JOE GQABI REGION

Municipality	HSS No.	HSS Project Description	X	Y	Status	Project Approval Date	Total Contractual Target	Total Approved Project Budget	Annual Target (Sites)	**Comments by PDHS
ALL MUNICIPALITIES JOE GQABI DISTRICT	C17070011/1	Joe Gqabi 500 subs - - 60 subs	-30.6983014	28.5114182	Planning	2010/12/13	60	R79 929 380	40	Procurement Strategy
ALL MUNICIPALITIES JOE GQABI DISTRICT	C17080004/1	Joe Gqabi 500-emergency - 150 Destitute - Ph 4 - Phase 1	-32.5841968	27.3616476	Running	2010/12/13	150	R79 929 380	50	Procurement Strategy
ELUNDINI MUNICIPALITY	C13030001/1	Maclear - Elundini 100 subs Destitute - - 60 subs	-30.8313128119622	28.5994873009888	Running	2012/12/11	100	R9 931 385	60	Procurement Strategy
ELUNDINI MUNICIPALITY	C14090004/2	Maclear - Mbidlana 300 subs - Phase 1	31°16'28.01"S	28°22'37.21"E	Running	2014/10/03	300	R49 793 085	100	PSP Appointed
ELUNDINI MUNICIPALITY	C14090005/2	Maclear - Mqokolweni 305 Subs - Phase 1	-31.120883	28.583164	Running	2014/10/03	305	R50 622 970	100	PSP Appointed
ELUNDINI MUNICIPALITY	C14100010/1	Maclear - Sinxako 486 Subs - Phase 1	-31.11497222	28.64081111	Running	2014/10/03	486	R80 664 798	0	Running
ELUNDINI MUNICIPALITY	C14100011/1	Mount Fletcher - Kuebung 290 Subs - Phase 1	-30.4144	28.40614	Running	2014/10/03	290	R48 133 316	0	Running
ELUNDINI MUNICIPALITY	C14100002/1	Mount Fletcher Tembeni 2400 Units - Phase 1	-30.6983014	28.5114182	Planning	2022	0	R0	0	PACOM Resolution
ALL MUNICIPALITIES JOE GQABI DISTRICT	C17080004/1	Joe Gqabi 500-emergency - 150 Elundini - Phase 5	TBC	TBC	Planning	2010/12/13	150	R79 929 380	60	Procurement Strategy
SENQU MUNICIPALITY	C14100006/1	Barkly East - 298 - Phase 1	-30.9235	27.5167	Planning	2014/03/26	298	(49 301 692.84)	50	Project Layout plan approval approval
SENQU MUNICIPALITY	C07040003/1	Lady Grey Edgar - 56 subs - Phase 1	-30.7166660	30°42'59"S	Planning	2022	56	On Resolution (10 123 99.20)	0	Undergoing resolution signatures

SENQU MUNICIPALITY	C14110002/6	Sterkspruit - 4000 Subs (Phase 5) - 500 units	-30.54920499	27.39159184	Procurement BSC	2014/10/03	500	R663 907 800	88	Procurement BSC
SENQU MUNICIPALITY	C14110002/5	Sterkspruit - 4000 Subs (Phase 6) - 600 units	-30.56055425	27.41959402	Procurement BSC	2014/10/03	600	R663 907 800	60	Procurement BSC
SENQU MUNICIPALITY	C14110002/7	Sterkspruit - 4000 Subs (Phase 7) - 600 units	-30.56055425	27.41959402	Planning	2014/10/03	300	R663 907 800	0	
SENQU MUNICIPALITY	C14110002/7	Sterkspruit - 4000 Subs (Phase 8) - 600 units	-30.56055425	27.41959402	Planning	2014/10/03	400	R663 907 800	0	
SENQU MUNICIPALITY	C14110002/3	Sterkspruit - 4000 Subs - 539 Units	TBC	TBC	Procurement BSC	2014/10/03	0	R663 907 800	0	Procurement BSC
SENQU MUNICIPALITY	C02100001/1	Herschel - R/land Ph 2 - 700 subs - Phase 1	TBC	TBC	Blocked	2001/11/30	700	R0	0	Blocked due to Land Invasion
WALTER SISULU MUNICIPALITY	C11110001/1	Aliwal North - Dukathole 140 subs - - Top structure	-30.691668	26.6916362	Running	12/10/2009	140	R21 965 635	0	Projected for individual registration
WALTER SISULU MUNICIPALITY	C11030011/3	Aliwal North - Dukathole 172 subs - - (8 Military Veterans)	-30.690930	26.702530	Planning	2010/01/07	8	R2 406 588,72	8	Planning underway
WALTER SISULU MUNICIPALITY	C11030011/1	Aliwal North - Dukathole 172 subs - Phase 1	-30.689279	26.704117	Running	2010/01/07	172	R28 963 529,37	0	Projected for individual registration
WALTER SISULU MUNICIPALITY	C17110001/1	Aliwal North - Dukathole 550 subs - - services	-30.706519	26.690077	Planning	2017/11/24	550	R100 550 109,00	0	Project budgeted but delayed due to Bulk
WALTER SISULU MUNICIPALITY	C17110001/2	Aliwal North - Dukathole 550 subs - - Top structures	-30.706519	26.690077	Planning	2017/11/24	550	R100 550 109,00	0	Projected for individual registration
WALTER SISULU MUNICIPALITY	C14100004/1	Aliwal North - Hilton 94 subs - Phase 1	-30.695740	26.697886		2012/11/26	94	R12 326 784,88	0	Projected for individual registration
WALTER SISULU MUNICIPALITY	Not available yet	Burgersdorp - Sportsfield - Phase 1	-31.024154	26.322144	Running	2017/02/14	0	R1 903 502,31	0	Under Construction

WALTER SISULU MUNICIPALITY	C14090006/1	Burgersdorp -123 subs - Phase 1	-31.006341	26.3330001	Running	2014/09/09	123	R22 188 073,11	0	Projected for individual registration
WALTER SISULU MUNICIPALITY	C15020001/1	Jamestown 304 subs - Phase 1	-31.125207	26.810654	Procurement BSC	2014/10/23	304	R53 735 769,60	163	Procurement BSC underway
WALTER SISULU MUNICIPALITY	C15020001/2	Jamestown 304 subs - Phase 2	-37.389808	-122081414	Planning	2014/10/23	304	R0,00	0	Procurement BSC underway
WALTER SISULU MUNICIPALITY	C17070010/1	Steynsburg - 220 subs - - Planning and Services	-31.298700	25.822943	Running	2016/05/31	220	R39 756 453,00	120	Procurement BSC underway
WALTER SISULU MUNICIPALITY	C17070010/2	Steynsburg - 220 subs - - Top Structures	-31.298700	25.822943	Procurement BSC	2016/05/31	220	R0,00		Procurement BSC underway
WALTER SISULU MUNICIPALITY	C09100003/2	Steynsburg - 530 subs - 530 Top structures	-31.298700	25.822943	Planning	2009/08/28	530	R62 726 222,80	0	Transfers underway
WALTER SISULU MUNICIPALITY	C21080009/1	Venterstad 270 - Phase 1	-30.785007	25.803743	Planning	2022	270	R53 158 342.5	50	Undergoing resolution signatures
WALTER SISULU MUNICIPALITY	C21080010/1	Joe Gqabi Extension 3000 Subs	-30.709211	26.688596	Planning	2022	3000	0	0	Priority Affected by Land Invasion
WALTER SISULU MUNICIPALITY	C21080010/1	Burgersdorp Dubai 1000 Sub	-30.709211	26.688596	Planning	2022	1000	R0,00	0	Priority Affected by Land Invasion

ANNEXURE G:
2022/2023 INFRASTRUCTURE DEVELOPMENT PLAN

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
		MUNICIPAL INFRASTRUCTURE GRANT (MIG)											
1	S/EC/ 1762 6/20/ 23	Senqu Rural Sanitation Programme : Phase 6	Senqu	Sanitation	Construction of VIP Toilets	Dibinkonzo; Ntsimekweni; Ezintatyaneni, Bluegums; Bambospruit, JORDAN, Jozanashoek; Jozanasdam; Magwiji; Sunduza, MAKHUMHSA, MBONISWENI, Tienbank, MFINCI, FRANCE, Zola, Esilindini, MOUNTAIN VIEW, Tienbank, Makheteng, NGQUBA, Lepota, Kroomspruit, NEW REST, Bebeza, Ndungunya,	Construction: <= 25%	R 132 220 684	MIG	Operational	R 6 000 000	R 0	R 0
2	S/EC/ 1549 0/18/ 20	Elundini Rural Sanitation Programme : Phase 6	Elundini	Sanitation	Construction of VIP Toilets	Montgomery, Nyibiba, Ncwangele, Upper Tsitsana, Mission,Maduguru,Ngqwanen i, Lower Ntywenka, Nkolosana, Ngcele Gungwini Sommeville, Upper Esinxako, Lower Esinxako, Mokgalong, Koebung, Seqhobong, Ntuku, Tabase/Maluti Village	Construction: <= 25%	R 173 519 999	MIG	Operational	R 6 000 000	R 0	R 0
3	W/EC /147 18/1 7/23	Elundini Rural water Programme (ORIO)	Elundini	Water	Construction of rural water supply infrastructure	107 Villages in Elundini LM	Design & Tender	R 143 813 803	MIG	CAPITAL	R 7 500 000	R 20 000 000	R 20 000 000
4	S/EC/ 1460 6/10/	Jamestown Bucket Eradication	WSLM	Sanitation	Construction of sewer reticulation in	James Calata (Jamestown)	Construction: <=25%	R 50 193 464	MIG	CAPITAL	R 22 402	R 2 002 404	R 5 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
	16	and Sanitation Phase 2 (Sewer Lines)			Jamestown and Masakhane						591		000
5	W/EC /123 33/1 1/18	Maclear Water Treatament & Distribution Upgrade (WTW)	Elundini	Water	Construction of WTW in Malear	Nqnqarhu (Maclear)	Design & Tender	R 226 644 753	MIG	CAPITAL	R 0	R 20 000 000	R 10 000 000
6	S/EC/ 1541 8/17/ 20	Bulk Sanitation Infrastructu re Upgrade for Maclear Phase 3B	Elundini	Sanitation	Construction of gravity main sewer line, Sewage Pump station and rising sewer line to the WWTW	Nqnqarhu (Maclear)	Construction: <=25%	R 60 447 551	MIG	CAPITAL	R 60 331 059	R 0	R 10 000 000
7	W/EC /123 33/1 1/18	Maclear Water Treatment & Distribution Upgrade (AC Pipe Replacemen t)	Elundini	Water	AC Pipe replacement in Maclear town	Nqnqarhu (Maclear)	Construction: <=25%	R 95 995 638	MIG	CAPITAL	R 10 000 000	R 0	R 0
8	W/EC /167 55/1	ALIWAL NORTH WATER TREATMEN	WSLM	Water	Construction of 40Ml earth dams in Aliwal	Maletswai (Aliwal North)	Design and Tender	R 29 185 579	MIG	CAPITAL	R 7 000 000	R 23 000 000	R 10 500 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
	9/21	T WORKS HOLDING DAMS			North WTW								
9	S/EC/ 1660 3/20/ 22	Provision of Sanitation Infrastructu re for Ugie: Phase 1	Elundini	Sanitation	Construction of sewer network in Ugie Park and Extension, outfall gravity sewer line and refurbishment of WWTW	Ugie	Design and Tender	R 27 478 319	MIG	CAPITAL	R 10 000 000	R 20 000 000	R 10 500 000
10	W/EC /184 62/2 1/24	Senqu Rural Water: Work Package 1	Senqu	Water	Develoment of water schemes for villages without water in ward 1: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Walaza (Drayini, Mrifi, lower Mgqwetha, upper Mgqwetha, Platform, Ntatyana, Mabeleni, Mfityi, Mbobo 1 (Sqithini, Rasiyeni, Ntanbakususku, Mdeni), Mbobo 2 (Mboleni), Bikizana (Mabaleni, Ntatyana) Ndofela (Mayisela, Mabheleni, Dolosi)	Design and Tender	R 82 987 000	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
11	E/EC/ 1856 5/21/ 24	Senqu Rural Water: Work Package 2	Senqu	Water	Develoment of water schemes for villages without water in ward 2,4,5,6,13 &15: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Mkhunyazo (Ward 4), New Hillside (Ward 4), Old Hillside (Ward 4), Etyinindi (Ward 6), Letsoesi (Ward 6), Mtere (Ward 6), Ndungunyeni (Ward 6), Fort Hook (Ward 5), Sketsheni (Ward 5), Ntubeni (Ward 5), Sdakini (Ward 5), Rock Cliff (Ward 15), Henge Ext (Ward 2), Marakaneng (Ward 13) and Witterbergen (Ward 13)	Design and Tender	R 123 848 088	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000
12	W/EC /184 61/2 1/24	Senqu Rural Water: Work Package 3	Senqu	Water	Develoment of water schemes for villages without water in ward 2,3,5,6,7 & 9: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Bikizana (Ward 3), Ekra (Ward 3), Hobeng (Ward 3), Zola (Henge) (Ward 2), Magalagaleni (Ward 2), Mtsila (Ward 6), Ndingashe (Ward 2), Ngxingweni (Ward 6) and Thobale (Ward 6), Qhoboshane (Ward 3), Sitoromo (Ward 2), Macacume (Ward 7), Dumzela (Ward 2), Mission (Ward 5), Hinana (Ward 9), Luhambeni (Ward 9),	Design and Tender	R 76 309 845	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
13	NYR	Senqu Rural Water: Work Package 4	Senqu	Water	Develoment of water schemes for villages without water in ward 3,4,5,6 and 15: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Mfinci (ward 3), Daweni (ward 3), Blikana (ward 4), Lusizini (ward 4),Sidakeni (ward 4) Zola (ward 4) Mtsono (ward 5),Kwamadume (ward 5), Mahlabathini (ward 5), Zingxengele (ward 5), Kwasphambo (ward 5), Phelandaba (ward 5), Rockcliff (ward 15), Mdlambona (ward 6)	Not Registered	R 68 432 899	MIG	CAPITAL	R 0	R 14 000 000	R 11 000 000
14	W/W EC/18630/21/23	Senqu Rural Water: Work Package 5	Senqu	Water	Develoment of water schemes for villages without water in ward 5: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Thuteng, Trusting, Sgingqini, Matsoseng, Dikotsong, KwaRob, Nxamangele, Mazizini, Edwaleni, Kwamundu, Matafazaneni, Mkhuzo, Nkawulweni, Trappan and Upper Bebeza	Design and Tender	R 54 594 823	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
15	W/EC /187 04/2 1/24	Senqu Rural Water: Work Package 6	Senqu	Water	Develoment of water schemes for villages without water in ward 5, 12, 13 & 17: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communinal standpipes	Lower Joveleni (Ward 17), Mtshisa (Ward 17), Upper Joveleni (Ward 17), Qhoboshaneni (Ward 12), Sigcawini (Ward 13), Sigcawini (Ward 13), Dwaleni (Ward 6), Moyeni (Ward 8), Masekeleng (Ward 17), Fleyini (Ward 17), Lahla (Ward 17), Mabalana (Ward 17), Mpoki (Ward 6), Maqheyeni (Ward 5), White City (Ward 5) and Magozini (Ward 13).	Design and Tender	R 31 945 218	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000
16	W/EC /186 57/2 1/25	Senqu Rural Water: Work Package 7	Senqu	Water	Development of water schemes for villages without water in ward 2,6,7,10,12, & 18: Project entails raw water source development (e.g. Boreholes, Springs, etc). Development of pipeline and communal standpipes	Dulcies Nek Ward 6, Mbini Ward 6, Bamboespruit Ward 7, Majokong Ward 7, Rooisand Ward 7, Enteni Ward 7, Esilindini Ward 12, Bensonvale Ward 12, Magwiji Ward 12, Magadla Ward 12, Jozanas Nek Ward 12, Madakane Ward 18, Nqutu Ward 2, Maralaneng Ward 7 and Makheteng Ward 10	Design and Tender	136514258	MIG	CAPITAL	R 7 000 000	R 8 000 000	R 11 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
17	NYR	Lady Grey Water Supply: New Trunk and Reticulation Water Mains for Kwezi-Naledi & Transwilger	Senqu	Water	The project is aim at making the Lady Grey water network to more efficient and arrangement the network for Water Conservation and Demand Management (WCDM). The scope includes installation of PRV Valves, Isolation valves, pipework and break pressure tanks.	Lady Grey	Not Registered	27 486 722.00	MIG	CAPITAL	R 0	R 10 000 000	R 11 000 000
18	NYR	Aliwal North Asbestos Pipe Replacement	WSLM	Water	AC Pipe replacement in Aliwal North town	Maletswai (Aliwal North)	Not Registered	138 405 341.36	MIG	CAPITAL	R 0	R 10 000 000	R 10 000 000
19	NYR	TELLE RIVER BULK WATER SUPPLY SCHEME	Senqu	Water	The project is aimed at providing the northern areas of Sterkspruit with surface water from the Telle River: The project entails	Sterkspruit	Not Registered	R 630 000 000	MIG	CAPITAL	R 0	R 2 203 696	R 10 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
					the construction of dam wall in Telle river, abstraction point, pump house and associated pipework								
20	NYR	Aliwal North Bulk Water Infrastructure for Housing Development	WSLM	Water			Not Registered	R 88 458 265	MIG	CAPITAL	R 0	R 10 000 000	R 13 686 800
21	N/A	PMU ADMIN.	Senqu						MIG	CAPITAL	R 9 012 350	R 9 431 900	R 9 878 200
		TOTAL									**R 180 246 000**	**R 188 638 000**	**R 197 565 000**
		RBIG (DWS)											
29	ECR046	Sterkspruit Regional Bulk Sanitation	Senqu	Sanitation			Design	240 000 000,00	RBIG	CAPITAL	R 15 000 000	R 20 000 000	R 40 000 000

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
30	TBA	Lady Grey Bulk Water Supply	Senqu	Water			Design	260 000 000,00	RBIG	CAPITAL	R 0	R 0	R 0
		TOTAL									**R 15 000 000**	**R 20 000 000**	**R 40 000 000**
		WATER SERVICES INFRASTRUCTURE GRANT (WSIG)											
31		DC14_P10163-101_District Wide Refurbishment of WWTW	WSLM	Sanitation			Planning	20 000 000,00	WSIG	CAPITAL			
32		Pre-paid Water Meters	District wide	Water			Planning	1 000 000,00	WSIG	CAPITAL			
33		DC14_P10162-101_District Wide Telemetry System	District wide	Water			Implementation	15 000 000,00	WSIG	CAPITAL			
34		Electro-mechanical asset replacement	District wide	water			Planning	4 000 000,00	WSIG	CAPITAL			
35		Aliwal North pipe	WSLM	Water			planning	5 000 000,00	WSIG	CAPITAL			

No.	PROJECT NUMBER	PROJECT NAME	LM	PROJECT TYPE	PROJECT DESCRIPTION	AREA/ VILLAGES	Project Status	APPROVED BUDGET	SOURCE OF FUNDING	BUDGET IMPLICATION	Projected Expenditure for 2022/23 (incl. VAT)	Projected Expenditure For 2023/24 (Incl. VAT)	Projected Expenditurefor2024/25 (Incl. VAT)
		replacement											
36		DC14_P10162-102_Rural Rudimentary Water Supply	District wide	Water			Planning	5 000 000,00	WSIG	CAPITAL			
37		DC14_P10162-103_Refurbishments of WTWs	District wide	Water			Implementation	5 000 000,00	WSIG	CAPITAL			
38		DC14_P10162-104_Argumentation of Clear Water Storage	Senqu	Water			Planning	7 000 000,00	WSIG	CAPITAL			
39		DC14_P10162-105_Acquire Bulk Meters	District wide	Water			Tender	7 000 000,00	WSIG	CAPITAL			
		TOTAL									**R 60 000 000**	**R 38 000 000**	**R 60 610 000**
		DBSA FRONT-LOADING LOAN WITH MIG FUNDS											
40	W/EC/12333/1	Maclear Water Treatment	Elundini	Water			Tender	R 226 644 753	DBSA Front	CAPITAL	R 10 000		R 0

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	1/18	& Distribution Upgrade (WTW & AC Pipe Replacement)							loading		000		
		TOTAL									**R 10 000 000**	**R 0**	**R 0**

ANNEXURE H
MUNICIPAL PRIORITY ACTION PLAN (MPAP)

MUSSA VULNERABILITY GAP IDENTIFIED e.g. (Financial Asset Management, O&M,)	MUSSA VULNERABILITY CLASS e.g. (Extreme, High, Moderate)	KEY CHALLENGES CONSTITUTINGNG TO THE GAPS	ACTIONS TO ADDRESS GAPS /CHALLENGES	TIMEFRAME TO COMPLETE ACTIONS	RESPONSIBLE WSA PERSONNEL
Revenue Collection (25%)	Extreme	1. Revenue collection less than 50%	Prepaid meter installation	30 June 2023	Ms Sulene u Toit
			Bad Debt Write Off Programme for households & business	30 June 2023	Ms Sulene u Toit
			Frequent public participation projects	30 June 2023	Ms Sulene u Toit
			Increase billed revenue collected from 30% to 40%	30 June 2023	Ms Sulene u Toit
		2. Grant dependency	Source additional funding from sister departments and other institutions	30 June 2023	Ms Sulene u Toit & Mr Dumisani Lusawana
		3. Inadequate bulk meters	Procure and install bulk meters through the WSIG	30 June 2023	Mr Dumisani Lusawana
Financial Management (45%)	Extreme	1. Inadequate operating & maintenance budget	Utilize the WSIG for upgrading & expansion of existing water & sanitation infrastructure	31 December 2022	Ms Sulene u Toit
		2. Historical debt to DWS for bulk purchases	Start payments on DWS Debt Repayment Plan	31 January 2023	Ms Sulene u Toit
Drinking water safety & regulatory Compliance (45%)	Extreme	1. Incomplete water safety plans for all water supply systems	Review and development of new JGDM water safety plans	30 June 2023	Mr Dumisani Lusawana
		2. Ineffective implementation of sampling programme	Review of the sampling programme and enhance water quality monitoring	31 March 2023	Mr Dumisani Lusawana
Wastewater/Environmental Safety & Regulatory Compliance (45%)	Extreme	**1. Incomplete wastewater risk abatement plans**	Review and development of new JGDM wastewater risk abatement plans for all water safety plans	31 March 2023	Mr Dumisani Lusawana
		2. A total of 6 WWTWs are not operational	Upgrade pumpstations and WWTWs using internal and external funding	30 June 2023	Mr Dumisani Lusawana

		3. Deteriorating wastewater quality monitoring	Improve monitoring of effluent from wastewater treatment works	30 June 2023	Mr Dumisani Lusawana
Financial Asset Management (50%)	High	1. Inadequate budget for asset renewal	Investigate additional funding sources for asset renewal and implementation of Master Plan	30 June 2023	Mr Dumisani Lusawana/ Mr Sicelo Pongoma
Operations and Maintenance of Assets (55%)	High	1. Inadequate budget for O&M	Investigate additional funding sources for asset renewal and implementation of Master Plan	30 June 2023	Mr Dumisani Lusawana
			Utilize WSIG for some of the O&M activities	31 March 2023	Mr Dumisani Lusawana
Water conservation and demand management (55%)	High	1. Inadequate zonal metering & appropriate valves	Installation of zonal meters and applicable valves	30 June 2023	Mr Dumisani Lusawana
		2. Illegal connections, theft and vandalism	Enhancement the enforcement of by-laws	30 June 2023	Mr Sicelo Pongoma/ Ms
Water Resources Management (59%)	High	1. Inadequate bulk metering & DWS billing as per allocation	Procure and install bulk meters through the WSIG	30 June 2023	Mr Dumisani Lusawana
		2. Inadequate water sources for a number of towns	Apply for funding for water sources development	30 June 2023	Mr Lumanyano Wana