CITY OF POLOKWANE
NATURALLY PROGRESSIVE

RESOLUTION OF THE COUNCIL OF POLOKWANE LOCAL MUNICIPALITY

DATE OF RESOLUTION: 30 JULY 2024

RESOLUTION NO: CR32/07/24

ITEM – 8.2.26

WATER AND SANITATION POLICY

RESOLVED THAT:

(a) The draft Water & Sanitation Policy be approved.

(b) The draft Water & Sanitation: Operations and Assets Maintenance Plan be approved.

(c) The draft Water & Sanitation: Water Meter Connection Procedure Manual be approved.

(d) The approved draft Water & Sanitation Plan be subjected to a public participation process.

CLLR K.W. MODIBA

COUNCIL SPEAKER

2024/07/30

DATE

POLOKWANE MUNICIPALITY
OFFICE OF THE SPEAKER
2024 -07- 30
PO BOX 111, POLOKWANE 0700
POLOKWANE MUNICIPALITY

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ITEM 8.2.26	**A**	*PORTFOLIO: WATER AND SANITATION* *DATE: 19/07/2024* *ITEM:6.1* *PAGE:1* *REF:*	*MAYORAL COMMITTEE* *DATE:23/07/2024* *ITEM: 8.19* *PAGE: 123-220*	*COUNCIL* *DATE: 30/07/ 2024* *ITEM:8.2.26* *PAGE:*

WATER AND SANITATION POLICY

RECOMMENDATIONS

(a) That Council consider and approve the draft Water & Sanitation Policy.

(b) That Council approves the draft Water & Sanitation: Operations and Assets Maintenance Plan.

(c) That Council approves the draft Water & Sanitation: Water Meter Connection Procedure Manual.

(d) That Council approves that the draft Water & Sanitation plan be subjected to a public participation process.

Action: **Executive Mayor**

CITY OF Polokwane
NATURALLY PROGRESSIVE

DIRECTORATE: WATER AND SANITATION

TO: **COUNCIL**

DATE: **30 JULY 2024**

FROM: **MAYORAL COMMITTEE**

WATER AND SANITATION POLICY

1. PURPOSE

The purpose of the report is to table the draft Water and Sanitation Policy together with the attached annexures (1. Water & Sanitation: Operations and Assets Maintenance Plan, 2. Water Meter Connection Procedure Manual) for consideration and approval by Council.

2. BACKGROUND

Polokwane Local Municipality is responsible for ensuring that all residents within the jurisdictional area of the PLM have access to water services in accordance with the Constitution of the Republic of South Africa, Act 108 of 1996, the Local Government: Municipal Structures Act, Act 117 of 1998, the Local Government: Municipal Systems Act, Act 32 of 2000 and the Water Services Act, Act 108 of 1997 and at the effective date is providing water service to the residents and will continue to do so.

Provision of water in accordance with the obligations of the municipality as Water Services Authority is a high priority. The supply areas consist of the City and urban areas as well as an extensive rural area, and both urban and rural areas are facing severe challenges in terms of water provision.

3. DISCUSSION

Polokwane Municipality recognises the need for an integrated water and sanitation management system that shall give effect to the National Water Act and National Water Services Act of the Republic of South Africa. Polokwane Municipality further recognises the need to supply all residents with access to sustainable potable water and proper water borne sewerage disposable systems.

It is the primary responsibility of Polokwane Municipality to ensure that we contribute to the upliftment of the entire community and the eradication of poverty and inequality by providing sustainable quality water and sanitation services (including the supply of free basic water to the designated target group as identified in the approved Free Basic Water Policy) which will improve the lives of all residents.

The purpose of the Polokwane Municipality Water and Sanitation Management Policy is to ensure that the supply, treatment, distribution, usage and recycling of water and the treatment and disposal of sewerage effluent is regulated accordingly to enhance and promote the principles of sustainable development.

The policy shall endeavor to promote integrated water and sanitation planning and sustainable effective service delivery of the municipal water and sanitation services in an environmentally responsible manner. The Water and Sanitation Management Policy shall give effect to the applicable by-laws, Water Act, Water Services Act, Environmental Act and National Water Management Strategy, including water loss management, water conservation and demand management and the regular monitoring of the quality of potable water as well as purified sewerage effluent.

4. FINANCIAL IMPLICATIONS

The implementation of the Water & Sanitation Policy and the Asset Maintenance Plan will be covered under the water & sanitation approved budget for 2024/25 Financial Year and the MTREF allocations.

5. LEGAL IMPLICATIONS

The draft policy is in-line with the with the Constitution of the Republic of South Africa, Act 108 of 1996, the Local Government: Municipal Structures Act, Act 117 of 1998, the Local Government: Municipal Systems Act, Act 32 of 2000 and the Water Services Act, Act 108 of 1997.

6. RECOMMENDATIONS

(a) That Council consider and approve the draft Water & Sanitation Policy.
(b) That Council approves the draft Water & Sanitation: Operations and Assets Maintenance Plan.
(c) That Council approves the draft Water & Sanitation: Water Meter Connection Procedure Manual.

(d) That Council approves that the draft Water & Sanitation plan be subjected to a public participation process.

26/07/2024

CLLR M.J. MPE
EXECUTIVE MAYOR

DATE

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CITY OF Polokwane

NATURALLY PROGRESSIVE

WATER AND SANITATION SERVICES POLICY

DOCUMENTNAME:	**WATER AND SANITATION SERVICES POLICY**
DIRECORATE:	WATER AND SANITATION
APPROVED BY:	COUNCIL RESOLUTION NO: DATE:

Signature: _____

Name: MS Thuso Nemugumoni

Municipal Manager

Date:

Contents

I. PREFACE

Polokwane Municipality recognizes the need for an integrated water and sanitation management system that shall give effect to the National Water Act and National Water Services Act of the Republic of South Africa. Polokwane Municipality further recognises the need to supply all residents with access to sustainable potable water and proper water borne sewerage disposable systems.

As the appointed Executive Mayor of Polokwane, I appreciate that it is the primary responsibility of Polokwane Municipality to ensure that we contribute to the upliftment of the entire community and the eradication of poverty and inequality by providing sustainable quality water and sanitation services (including the supply of free basic water to the designated target group as identified in the approved Free Basic Water Policy) which will improve the lives of all residents.

Councillor Mosema John Mpe
Executive Mayor

II. FOREWORD

Polokwane Municipality Water and Sanitation Management Policy aims to ensure that the supply, treatment, distribution, usage and recycling of water and the treatment and disposal of sewerage effluent is regulated accordingly to enhance and promote the principles of sustainable development.

The policy shall endeavour to promote integrated water and sanitation planning and sustainable effective service delivery of the municipal water and sanitation services in an environmentally responsible manner.

As per the Water Master Plan developed in 2018, the Municipality vision is that by 2040, Polokwane will be a water-sensitive Municipality that optimises and integrates the management of water resources to improve universal access, resilience and liveability for the prosperity of its people.

Ms Thuso Nemugumoni
Municipal Manager

III. ACRONYMS AND ABBREVIATIONS

CPA	Community Property Association
FBS	Free Basic Services
FBW	Free Basic Water
IDP	Integrated Development Plan
NDMA	National Disaster Management Act
NFSMS	National Faecal Sludge Management Strategy
NRW	Non-Revenue Water
NSP	National Sanitation Policy
NWA	National Water Act
NWPR	National Water Policy Review
SANS	The South African National Standard
SFWS	Strategic Framework for Water Services
WHO	World Health Organization
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSP	Water Services Provider

IV. DEFINITIONS

"Basic Sanitation Facility"	SFWS (2003)	The infrastructure necessary to provide a sanitation service which is safe, reliable, private, protected from the weather, ventilated, keeps smells to the minimum, is easy to keep clean, minimises the risk of the spread of sanitation-related diseases by facilitating the appropriate control of disease carrying flies and pests, and enables safe and appropriate treatment and/or removal of human waste and wastewater in an environmentally sound manner.
"Basic Sanitation Service"	SFWS (2003)	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.
"Basic Water Services"	SFWS (2003)	A basic water supply service and/or a basic sanitation service.
"Basic Water Supply Facility"	NWPR (2016)	A basic water supply facility is defined as the infrastructure necessary to supply portable water to a formal connection at the boundary of a stand or site of a public institution (school, clinic, hospital etc.)
"Basic Water Supply Service"	SFWS (2003)	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.
"End-user education"	NSP (2016)	Ongoing consumer education on sanitation services right, responsibilities, facility operation and maintenances; and water conservation and demand management including reduce, reuse, recycle and recover principles.
"Faecal Sludge"	NFSMS (2023)	The contents emptied from onsite sanitation system, and not transported by sewerage. It includes liquid and solid contents of onsite systems such as container-based vaults, pit latrines, septic tanks, community toilets or mobile toilets.
"Faecal Sludge Management"	NFSMS (2023).	The management of human excreta from onsite sanitation systems, excluding package plants along sanitation value chain which includes containment, collection, transportation, treatment, safe disposal, or reuse.
"Hygiene Education"	NSP (2023)	Relates to activities that aim to increase an individual's knowledge about issues relating to personal habits and practices that affect one's health, particularly in relation to water and sanitation services. Hygiene education includes personal hygiene, water hygiene, food hygiene, human waste hygiene and environmental hygiene education to ensure appropriate sanitation practices.
"Indigent"	NSP (2016)	Indigent means —lacking the necessities of life. The definition of indigent from the National Framework for a Municipal Indigent Policy outlines sanitation as one of the necessities of life. The National Treasury definition of a 'poverty line' is also acknowledged to determine indigence.

Indigent households	Polokwane Municipality Indigent and social assistance policy (2017	Any household, including child headed households, which meet the criteria as set out in the indigent policy to qualify for service rebates, support or subsidy.
"Interim Water and Sanitation Services"		An interim level of water and sanitation service is "a temporary water and sanitation service [which] is an interim measure and should provide, within reasonable walking distance, water of an adequate quality from a health point of view and provide sanitation measures that ensures privacy to the user, be readily accessible and in close walking distance, and provide for the safe disposal of human waste, including hygiene and end-user education while repairs and/or reconstruction of a water services failure/interruption/breakdown are in effect".
"Non-Revenue Water"		Non-revenue water (NRW) is the volume of water supplied by the water utility but for which it receives no income. NRW incorporates unbilled (metered or unmetered) authorised consumption, apparent / commercial losses, and real / physical losses.
"Privately Owned Land"	Water and Sanitation Services Policy on Privately Owned Land (2023)	Privately Owned land is any land that is not public land or land owned, controlled, or leased by the state but is owned or under the control of a single private individual or entity or group of individuals collectively. In most cases, these properties are far away from the municipality and its services systems. The range of contexts of privately owned land for the purpose of this policy includes, amongst others:

		Commercial farms. Mine owned land; Church-owned land; Industrial-owned land, including privately owned enterprises. Game parks Agricultural holdings Communal Property Association (CPA) Trust properties
"Water Services Authority"	SFWS (2003)	Any municipality that has the executive authority to provide water services within its area of jurisdiction in terms of the Municipal Structures Act 118 of 1998 or the Ministerial authorisations made in terms of this Act.
"Water Services Intermediary"	SFWS (2003) / Water Services Act (1997)	Any person who is obliged to provide water services to another in terms of a contract where the obligation to provide water services is incidental to the main object of that contract.
"Water Services Provider"	Water Services Act (1997) SFWS (2003)	Water services provider" means any person who provides water services to consumers or to another water services institution but does not include a water services intermediary. A Water Services Provider (WSP) is: • Any person who has a contract with a WATER SERVICES AUTHORITY or another WSP to sell water to, and / or accept wastewater for the purposes of treatment from, that authority or provider; and / or • Any person who has a contract with a WATER SERVICES AUTHORITY to assume operational

		responsibility for providing water services to one or more consumers or end users within a specific geographic area; or • A WATER SERVICES AUTHORITY that provides either or both of the above services itself.

1. INTRODUCTION

Polokwane Municipality is one of 144 Water Service Authorities' (WSAs) that are responsible for water supply and sanitation services provision. Water Services Authorities have a legal mandate to ensure that all South Africans, and in this case Polokwane Municipality residents are provided with basic water supply and sanitation services that comply with set standards (SANS 241) and prescribed regulations.

Provision of water in accordance with the obligations of the municipality as Water Services Authority is a high priority. The supply areas consist of the City and urban areas as well as an extensive rural area, and both urban and rural areas are facing severe challenges in terms of water services.

Polokwane Municipality has 16 Regional Water Schemes that are supplied by both Surface Water & Underground Water. However, majority of the rural water schemes are fully dependent on boreholes.

Ensuring provision of basic water supply and sanitation services to residents involves more than the provision of infrastructure. It is therefore the primary responsibility of Polokwane Municipality to provide sustainable water supply and sanitation services in an effective and efficient manner.

In recent years, there has been a growing recognition of the need to expand the traditional approach to basic water supply and sanitation services. This shift is driven by emerging concepts such as water-sensitive urban design, green infrastructure, climate resilience

(with a focus on environmental sustainability), and long-term sustainable development principles.

While the national policy and legislative frameworks are in place there is still a gap in customisation and alignment of these national policies with local government policies. Polokwane Municipality also grapples with its developmental role and is faced with critical basic water supply and sanitation services challenges.

This policy, therefore, aims to provide policy direction to Polokwane Municipality and its stakeholders in the provision of basic water supply and sanitation services.

2. PROBLEM STATEMENT

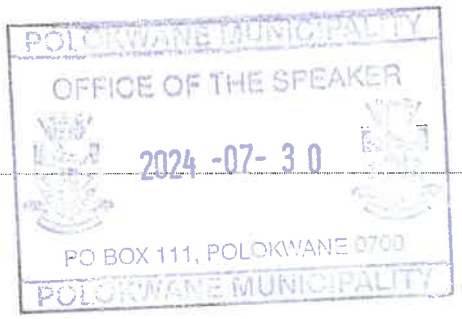
Water and sanitation services are foundational human rights, crucial for ensuring the well-being and dignity of the residents within the jurisdiction of the Polokwane Municipality. It is imperative that these services are delivered continuously and equitably. However, the Municipality faces a multitude of challenges in its endeavour to provide these essential services, including but not limited to:

Ageing Infrastructure: The Municipality grapples with ageing water and sanitation infrastructure, which poses a significant obstacle to efficient service delivery and sustainability.

Vandalism: Frequent acts of vandalism against water and sanitation facilities exacerbate operational difficulties and financial strain on the Municipality.

Insufficient Bulk Water Supply: Inadequate bulk water supply infrastructure fails to meet the burgeoning demands of the local population, resulting in erratic service provision.

Non-Revenue Water: Is determined according to a standard calculation which takes various categories of water use into account including losses, leaks, accounted for and unaccounted for water.



Operation and Maintenance: Challenges associated with the operation and maintenance of water and sanitation services infrastructure require immediate attention to ensure service reliability and longevity.

Water Supply and Sanitation Services Quality: There is a pressing need to improve the overall quality of water and sanitation services to meet acceptable standards, safeguarding public health and well-being.

Basic Sanitation: Many residents still lack access to basic sanitation facilities, a deficiency that undermines the dignity and health of the community.

Wastewater and Environmental Safety: Environmental concerns related to wastewater management and lack of regulatory compliance must be addressed to protect the environment and water resources.

Faecal Sludge Management: There is a lack of effective management of faecal sludge management within the WSA. For instance, there is no proper pit emptying programme and beneficial use of a faecal sludge.

Regulatory Compliance: Ensuring compliance with water and sanitation services regulations is a complex challenge that demands attention to avoid potential legal ramifications.

Moreover, a significant portion of the population remains without access to basic water supply and sanitation services, highlighting the urgency of comprehensive interventions.

Considering these multifaceted challenges, it is paramount to develop and implement effective strategies and initiatives that address the identified issues comprehensively. This problem statement underscores the need for coordinated efforts, resource allocation, and policy implementation to ensure that water and sanitation services in the Municipality are accessible, reliable, and of high quality, thereby upholding the fundamental rights and well-being of its residents. Most WSAs are still facing challenges relating to implementation and enforcement of Water and Sanitation Services Policies.

3. GUIDING POLICY AND LEGISLATIVE FRAMEWORK

South African Constitution (1996)

Section 156 of the Constitution vests the executive authority for water services in local government. One of the objectives of local government is to ensure the provision of services to communities in a sustainable manner within their areas of jurisdiction.

Section 27(1)(b) of the Constitution 108 of 1996 states that "Everyone has the right to have access to sufficient food and water.

The Constitution gives national and provincial government the authority to regulate the effective performance of local government in terms of water services.

In terms of Section 154, national and provincial government also has an obligation to support and strengthen the capacity of local to provide services.

Section 24 of the Constitution states that "everyone has the right to environment that is not harmful to their health and wellbeing and to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that prevent pollution and ecological degradation". Section 10 of the Constitution states that "everyone has inherent dignity and the right to have their dignity respected and protected".

Water Services Act, 1997 (Act No. 108 of 1997)

In terms of Section 11 (1) of the Water Services Act, every WSA has a duty to all consumers and potential consumers to progressively ensure efficient, affordable, economical, and sustainable access to water services.

Sections 3 (1) and (2) of the Water Services Act, states that everyone has a right to access a basic water supply and basic sanitation – this section is related to section 27 of the Constitution.

Section 22 provides for the approval to operate as a Water Services Provider and emphasise that Water Services Providers must get an approval of the Water Services Authority.

Section 24 provides for the registration of Water Services Intermediaries and that a Water Services Authority may, in its bylaws require the registration of Water Services Intermediaries or classes of such intermediaries within its area of jurisdiction.

Section 25 expands on the duties of the Water Services Intermediaries, which includes but not limited to, providing quality, quantity and sustainable water services that meet the minimum standards proscribed by the Minister and any additional minimum standards prescribed by the relevant Water Services Authority.

The Water Services Intermediary in executing its duties may not charge for water at a tariff which does not comply with any norms and standards prescribed under the Water Services Act, and any additional norms and standards set by the relevant water services authority.

National Water Act, 1998 (Act No. 36 of 1998)

The Act considers, amongst other factors, the following aspects, which directly support the provision of water for multiple uses:

a. Promoting equitable access to water;
b. Redressing the results of past racial and gender discrimination;
c. Promoting the efficient, sustainable, and beneficial use of water in the public interest;
d. Facilitating social and economic development; and
e. Providing for growing demand for water use.

Municipal Systems Act, 2000 (Act No. 32 of 2000)

The Municipal Systems Act is the enabling legislation which delineates the Municipalities' duties. It was enacted to: "provide for the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and

economic upliftment of local communities and ensure universal access to essential services that are affordable to all;". The following sections are of vital importance:

a) Section 4 speaks directly to Section 27 of the Constitution, explicitly binding municipal councils to the progressive realisation of access to water within its jurisdiction.

b) Section 5(1), the Municipal Systems Act expressly guarantees communities the correlative right to meaningful engagement, involvement, and communication. It also guarantees "access to municipal services which the municipality provides, provided the duties set out in subsection (2)(b) are complied with.".

c) Section 26 provides that, in order to give effect to these duties and the progressive realisation of socio-economic rights, municipalities are also obligated to draft and produce integrated development plans (IDPs). These plans are supposed to map out how a municipality is to manage its resources in a way that develops its constituent communities and addresses those communities' needs.

d) Section 73 obliges municipalities to ensure "ensure that all members of the local community have access to at least the minimum level of basic municipal services.".

e) Section 76 -81 talks about different mechanism that can be used for provision of services. Municipalities are therefore required to focus on the provision of these basic services and may not prioritise other services at the expense of basic services.

GNR.509 of 8 June 2001

Regulations relating to compulsory national standards and measures to conserve water Section 9 of the Water Services Act, 1997, give the Minister of Water and Sanitation the power to prescribe compulsory standards. a) Regulation 2(b) of the Regulations provides that the minimum standard for basic sanitation services is a toilet which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents entry and exit of flies and other disease-carrying pests. b) Regulation 3(b) determines the minimum standard for basic water supply services as: 'a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month – i.e., at a minimum flow rate of

not less than 10 litres per minute; ii. within 200 metres of a household; iii. with an effectiveness such that no consumer is without a supply for more than seven full days in any year.

National Water Resource Strategy 2013, 2nd Edition

The underlying principles of the strategy that are in direct alignment with the provision of water and sanitation services include the following:

a) The status of water needs be elevated as a critical resource and primary element of decision-making.

b) Water resources planning and management must be integrated and aligned with social and economic development;

c) Water management requires active water sector involvement, accountability, commitment and ownership;

d) Water management is a complex business that requires improved sector management, governance, control, coordination and leadership;

e) Water management requires effective partnerships and collaboration;

f) Water resources planning and management needs to include business principles and approaches such as sustainable management, financial management, service delivery, customer care, institutional arrangements, communication, and continuous tactical and strategic planning;

g) Investing in people and associated skills and capacity building must be prioritised;

h) Improved water sector knowledge, research, monitoring, and evaluation are key aspects of the extended business;

i) Water security and supply and delivery of water requires holistic and integrated management and governance, across the value chain; and

j) Water management must be implementation-, outcome- and impact-driven.

Municipality of Polokwane's Integrated Development Plan

It is important for this Policy to incorporate the strategic vision and priorities for the Municipality of Polokwane, as outlined in the five-year Integrated Development Plan 2023–2028(IDP). Water and sanitation services and associated programmes and initiatives are outlined below:

- IDP vision – The IDP's vision is to create a Municipality of hope for all: a prosperous, inclusive and healthy Municipality where people can see their hope for a better future for themselves, their children and their community become a reality. The primary priority of the IDP is economic growth, which is supported by the basic services delivery and safety priorities. Economic growth is dependent on the Municipality doing the basics well. Securing a reliable supply of water into the future and providing quality sanitation and refuse collection services are essential to enable a life of hope and dignity to communities.

- Basic services – this Policy directly implements this priority.

- Objective 1 aims to improve access to quality and reliable services through the mainstreaming of basic service delivery to informal settlements and backyard dwellings. There is a specific water metering programme that is aimed at improving billing in Mankweng & Seshego, including adopting innovative technologies and approaches to improve access to services specifically in informal settlements.

- Objective 2 aims to achieve well-managed and modernised infrastructure to support economic growth. The utility business model reform (with a water and sanitation services reform initiative) guides the key reform of the Municipality's basic services business model. This includes strategy development, the reform of service delivery and revenue models, tariff structure reform, and intergovernmental collaboration and advocacy.1

- The Infrastructure Planning and Delivery Support Programme plays an important role ensuring that the Municipality's investments yield maximum economic and social returns and contribute to Polokwane Municipality's resilience. The Municipality must invest in infrastructure planning and delivery support, and ensure improved infrastructure investment coordination in specific areas, precincts and large projects.

- The Excellence in Water and Sanitation Services Delivery Programme aims to improve living conditions by providing excellent water and sanitation services. Initiatives and projects include the Reticulation Network Modernisation Initiative, the Wastewater Treatment Project and the Sewer and Pump Station Maintenance Project.

- In alignment with, and implementation of, the Municipality's Water Strategy, Polokwane Municipality aims to establish Polokwane Water Entity. The main purpose is to increase water resilience cost-effectively and timeously, and substantially reduce the likelihood of severe water shortage (crisis) in future.

Water and sanitation services – business model reform initiative:

a. Water Master Plan: The Municipality will implement its approved Water Master Plan Programmes to support water resilience, climate change adaptation, and the modernisation of water and sanitation's business and associated structure and staff capacities.

b. Service delivery model reform: The Municipality will make changes to the delivery model to support the Water Strategy and strengthen capabilities across all functions, particularly sanitation. This will include the use of technology such as advanced metering and sensors at pump stations to provide real-time data on how the water network is performing. The Municipality will also improve its targeting of maintenance investments and reduce the costs associated with asset failure, including failure caused by vandalism and theft.

c. Revenue model and tariff structure reform: The Municipality's water tariff model will be improved to ensure transparency and fairness and keep the service financially sustainable into the future. Tariffs will reflect the cost of providing the service and promote water demand management and conservation.

d. Intergovernmental collaboration initiative: Recognising that sustainable catchment management is critical to Polokwane's water resilience, the Municipality will work with the national Department of Water and Sanitation services and other users to ensure improved management.

The Public Space, Environment and Amenities Priority, which includes – a healthy and sustainable environment – introduces the importance of environmental and biodiversity management as well as the green infrastructure initiative that can form part of the overall service infrastructure offering. This includes identifying ecosystem services provided by natural and green open spaces in Polokwane, with a focus on flood attenuation, water purification and infiltration.

4. POLICY PURPOSE

The provision of basic water supply and sanitation services within the Polokwane Municipality necessitates a comprehensive approach that engages all relevant stakeholders in a sustainable and improved delivery of these essential services. To collectively strive toward the overarching goal of enhanced water supply and sanitation services provision, it is imperative to understand and harmonise the policies and practices of pertinent stakeholders and service providers. This collaborative approach seeks to prevent unintended discrepancies and potential conflicts that could impede service delivery.

This Water and Sanitation Services Policy will elevate the delivery of basic water supply and sanitation services to residents by aligning municipal administration with the planning, bylaws, and legislation governing water and sanitation services within the region. The primary purpose of this policy is to achieve the following key objectives:

Provision of Free Basic Water and Sanitation Services: Ensure that indigent citizens have access to free basic water services, promoting social equity and addressing the basic needs of vulnerable populations.

Equitable Access to Water Services: Guarantee equitable and fair access to water services, considering financial, technological, socio-economic, and conservation factors, thereby fostering inclusivity and sustainability.

Compliance with Regulatory Framework: Enforce compliance with pertinent legislation and bylaws governing water supply, promoting responsible ownership and adherence to established standards.

Consistent Approach to Alternative Water Sources: Establish a uniform approach to evaluating and implementing alternative water sources to ensure the sustainable provision of water and related products and services, aligning with evolving industry best practices.

By pursuing these objectives, the Polokwane Municipality aims to enhance the quality, availability, and fairness of basic water supply and sanitation services for its residents while embracing innovative and sustainable approaches to meet the evolving needs of the community. This policy underscores the commitment to effectively manage and improve essential services, fostering the well-being and development of the region.

5. POLICY SCOPE

The policy applies to Polokwane Municipality, all the residents, private and public institutions, those living on privately owned land and all water services users within the Municipality's jurisdiction.

6. POLICY POSITIONS

The policy positions outlined in this document seek to align the municipality with the National Sanitation Policy of 2016, National Water Policy Review of 2013 and all approved relevant national polices. Subsequently, the provision of these services will be undertaken through various mechanisms as outlined in national legislations.

Furthermore, this policy will be implemented within the context of the following guiding factors:

- Affordability
- Institutional needs
- Environmental impact
- Social issues
- Water supply service levels
- Reliability
- Upgrading
- Site-specific issues
- Use of local resources
- Settlement patterns
- Compliance with Norms and Standards, Ownership of the infrastructure & Operation and maintenance and capital development.

6.1. PROVISION OF WATER SUPPLY SERVICES

The Municipality, in accordance with Section 27 (2) of the Constitution, seeks for the realisation of the provision of basic water supply to all within its jurisdiction. As guided by national policy and legislation, the municipality seeks to achieve the progressive realisation for provision of water supply services through these Service Level Standards: Basic; Interim; Emergency and Disaster Situations

6.1.1. BASIC LEVEL OF WATER SUPPLY SERVICES

Problem Statement

Despite the fundamental right to basic water supply, some areas including rural areas in the Polokwane Municipality lack access to adequate water services. The existing infrastructure falls short, with residents resorting to unauthorised connections, compromising the supply for others.

Additionally, the correlation between enhanced water supply and increased sanitation demands presents an added challenge. Unplanned settlements further escalate costs. Addressing these issues is crucial to ensuring equitable, sustainable, and healthy water services for all rural residents.

Policy Position

In accordance with all national policies and standards. The Polokwane Municipality commits to the provision of basic level of water supply at:

a) A minimum quantity of potable water of 25 litres per person per day or a minimum of 6 kl/household per month.
b) The access to water supply or delivery point will be provided at least at the boundary of the stand in all formalised settlements.
c) Water provided will comply with the SANS 241 quality standards.
d) Implementation of special meters that can detect and regulate the basic consumption of water.
e) User pay principle will be applied to all water services end user.
f) The Municipality will develop the water safety plan with working with the WSP, to determine water quality standards and management. The water safety plan will be developed in accordance World Health Organisation (WHO) Guidelines for Drinking Water and reviewed on an annual basis.
g) The Municipality will ensure continuous monitoring of drinking water quality in accordance with SANS 241. The monitoring mechanism will be compliant with the water quality monitoring programme.

h) A Water Services Development Plan (WSDP) will be developed and reviewed after 5 years. And will be incorporated into the Integrated Development Plan (IDP).
i) The Polokwane Municipality reserves the right to intervene (including to restrict supplies, terminate or discontinue yard supplies and the likes), if required to restore basic supplies to all.

6.1.2. FREE BASIC WATER SUPPLY SERVICES

Problem Statement

Free Basic Services (FBS) place great strain on the WSAs resources especially where individuals can afford pay for such services. The WSA has a limited amount of resource and needs to effectively manage such resources. It is to the detriment of the municipality to apply a blanket approach in the provision of Free Basic Services.

Furthermore, there has been an increasing challenge where consumers exceed the allocated free basic water supply provided by the municipality.

Policy Position

a) The provision of free basic water supply will be extended to indigent customers, with indigence status determined by the guidelines specified in the indigent policy and subsequent registration on the indigent register. It is the responsibility of the indigent household to register with the municipality.
b) Indigent households meeting the defined criteria will be eligible to receive the initial allocation of the first 6kl (6,000 litres) of water per month at no cost to the indigent.
c) Upon depletion of the initial 6kl allocation, qualifying indigent households will be subject to usage restrictions and will be responsible for payment based on the adopted tariff for any additional water consumed.
d) It is incumbent upon the user to actively employ all available water conservation methods to ensure the responsible and sustainable use of this vital resource, thereby preventing wastage and misuse.

e) The free basic water policy will not apply to businesses. All water services consumed by businesses would have to be paid for in accordance with the adopted tariff.
f) The Municipality reserves the right to review the Free Basic Water (FBW) policy with a view to change the targeted level of service and quantity of water under this policy as and when required in the interest of affordability, effectiveness, and sustainability of provision of free basic water.

6.1.3. INTERIM WATER SUPPLY

Problem Statement

The municipality is obliged by the Constitution to provide water supply services to all residents within its jurisdiction. This includes those living in informal settlements, privately owned land, rural areas and other in-formalised settlement types.

The municipality is faced with the challenge of mushrooming informal settlements that demand and need basic water supply services. These unplanned and informal settlements are not established within the specifications of the municipality's reticulation system which then limits the municipality's ability provide water supply services through the conventional methods.

Policy Position

a) Interim water supply services are a temporary water supply service measure and will be provided, within reasonable walking distance, water of an adequate quality from a health point of view.
b) As per SFWS (2003), interim water supply services will be provided for consumers living in informal settlements that are yet to be formalised. In the case of informal settlements, this service will be provided until such a time that tenure is established which will allow the municipality to provide permanent services.

c) Once interim water supply services have been provided by the municipality, all other illegal connections will be disconnected, and any reconnection will be punishable (as stated by the bylaws)

d) The level of provision of these services will vary based on factors including but not limited to, location, population density, availability of bulk water and reticulation infrastructure and lasty as per Section 27 (2) of the constitution which states that *the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right.*

6.1.4. WATER SUPPLY DURING EMERGENCY AND DISASTER SITUATION

Problem Statement

Recently there has been an increase in natural disasters which has left water and sanitation infrastructure extensively damaged, leaving many without access to basic water supply services.

Policy Position

a) Whenever water shortages are declared, the Municipality will impose reasonable limitations on its consumers' water consumption in its water supply network to ensure compliance with written notices issued under Schedule 3, section 6 of the National Water Act (NWA).

b) Disaster situations will be responded to in compliance with National Disaster Management Act (NDMA).

c) Emergency and disaster situations will be dealt with under the prescripts of the Water Services Act (1997) which state that *emergency water supply appropriate to the situation must be provided in the interim while the municipality works on restoring basic water supply services.*

d) Interim water supply services will also be in effect during disaster and emergency situations.

6.1.5. DRINKING WATER QUALITY MANAGEMENT

Problem Statement

Polokwane Municipality has its own established laboratory services, wherein water quality is tested on a daily basis at all water sources including boreholes in accordance to South African National Standards (SANS 241), the quality of drinking water is often affected by the deterioration of municipal water treatment facilities exacerbated by operational challenges. Polokwane Municipality Groundwater sources generally indicate elevated hardness levels, in excess of 300mg/l, or elevated nitrate concentration, the municipality employs treatments such as reverse osmosis to eliminate adverse effects to consumer health and limit end user complaints.

Policy Position

a) As per the Water Services Act (1997), the Municipality is the WSA responsible for the provision of quality water to all residents across all service level standards.
b) The quality of water provided for consumption must be in accordance with the currently accepted minimum standards with respect to health-related chemical and microbial contaminants. As such, a water monitoring program is developed to monitor drinking water quality as per South African National Standards (SANS 241).
c) Furthermore, the analysis of drinking water quality must be undertaken by an accredited laboratory and all results obtained are uploaded onto IRIS and published annually in suitable media accessible to relevant stakeholders.
d) Water quality from boreholes, like handpumps where there is no treatment system in place, must be analysed before the borehole is equipped to ensure that water quality is suitable for human consumption.
e) The municipality will conduct frequent testing at regular intervals of said boreholes to ensure that they remain compliant with the standards outlined in SANS 241.
f) The municipality has a Water Safety Plan which is reviewed every three years. This is used to continuously ensure the quality and safety of drinking water using risk assessment and risk management from the point of abstraction up to the point of use.

6.1.6. WATER CONSERVATION AND WATER DEMAND MANAGEMENT

Problem Statement

South Africa has an ever-growing population that is in constant need of water for both consumption and sanitation services which places great stress on the available water resources. Moreover, the increased occurrence of water leaks and pipe bursts, illegal and unmetered connections have put further stress on the municipality's ability to provide water supply services effectively and sustainably.

The Polokwane Municipality has identified many instances whereby water-meters are reflecting excessive water consumption by customers living in low-cost housing developments. In most instances the excessive water 'consumption' is in fact caused by water leakages from pipes and fittings on the premises of consumers, who appear unwilling or unable to effect the necessary repairs. These leakages are not only financially unsustainable for the Municipality (and ultimately the paying consumer), but also places unnecessary strain on limited water resources. The repairing of these leaks would therefore be in both the interest of the consumers concerned as well as to the Municipality.

Policy Position

a) The Municipality will develop a water conservation and demand management strategy to address water losses and leaks within its area of jurisdiction.
b) A Water Balance Strategy will be developed to determine water demand according to the different categories this includes:
c) All unmetered connections, including all currently unmetered standpipes, must be metered and registered as connections. Ensure every standpipe is metered in clusters and meters read regularly for billing to relevant government/municipality department.
d) Appropriate metering, illegal connection and real loss reduction policies need to be developed and implemented.
e) Zoning of supply systems into discreet zones to ensure proper network management.

f) Implement a leak detection and repair programs to reduce real losses.
g) Consumers with high internal leak levels (leaks within the boundary of the stand/property) should be identified and will be compelled to repair at their own expense.
h) Implement initiatives to register unregistered connections.
i) Highest Priority must be given to the high burst frequency and high-water loss areas.
j) All water connections and new installations should be formalised in the billing system in all local municipality.
k) The Municipality's billing section shall note a consumer with a high meter reading.

6.2. PROVISION OF SANITATION SERVICES

Water is life – sanitation is dignity". The Constitution states that it is the right of all South Africans to dignity. Sanitation is one of the basic human rights that contribute to the realisation of this right. It is therefore the duty of the municipality to ensure that this right is fulfilled through the provision of sanitation services. As guided by national policy and legislature, the municipality seeks the progressive realisation for provision of sanitation services through these Service Level Standards: Basic; Interim; Emergency and Disaster Situations.

Polokwane Municipality has 3 Wastewater treatment plants that are severely overloaded and are currently undergoing upgrades and refurbishment to meet the growing capacity demands, this will also require additional personnel to manage the facilities.

6.2.1. BASIC LEVEL OF SANITATION SERVICE

Problem Statement

There is still a considerable number of people who do not have access basic sanitation services, thus utilise the bucket system or use unventilated pit latrines. In cases where on-site sanitation facilities are provided, most of those facilities are full and there is no clear pit-emptying plan.

Policy Position

a) The standard for basic sanitation services must include the provision of a toilet with functional hand washing facility in the yard, which is safe, reliable for 24 hours a day, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease-carrying pests, providing for an effective and acceptable on-site sanitation technology.
b) The municipality will take responsibility of pit-emptying at the end user's expense.

6.2.2. FREE BASIC SANITATION

Problem Statement

Free Basic Services place great strain on the WSAs resources especially where individuals can pay for such services. The WSA has a limited amount of resource and needs to effectively manage such resources. It is to the detriment of the municipality to apply a blanket approach in the provision of Free Basic Services.

Policy Position

a) The provision of free basic sanitation will be extended to indigent household only, with indigence status determined by the guidelines specified in the indigent policy and subsequent registration on the indigent register. It is the responsibility of the indigent household to register with the municipality.

b) The indigent households need to meet the requirements outlined within the indigent policy and be registered on the indigent register.
c) The type of sanitation provided shall be determined by the WSA based on criteria such as, geography, population density, affordability, etc.
d) An additional free 4kl of water shall be provided to all indigents who use waterborne sanitation system, after the additional 4kl, the consumer shall be charged for the water consumed.
e) The municipality shall provide all needed sanitation infrastructure and provide the necessary services linked with the type of sanitation service offered (i.e., emptying of VIPs and septic tanks) at no cost to the indigent customer. The end user is responsible for reasonable maintenance measures.
f) Polokwane Municipality will maintain all municipal built VIP within the municipality to the minimum standard identified in the DWS Technical Guidelines.
g) The household will be responsible for all routine maintenance which can be attributed to normal usage.
h) Should the VIP require maintenance that is a result of poor workmanship or latent defects in the infrastructure, the Polokwane Municipality will take responsibility for its rehabilitation.
i) Polokwane Municipality will take responsibility for pit emptying or the relocation of top structures of new pits. (It is recommended that homeowners are not left to relocate their own structures as soil be reinforced through the construction of a suitable collar or lining, and the pit and collar dimensions must be accurate. Inappropriate construction may lead to collapsing pits and damaged latrines.)
j) If the VIP structure is damaged during emptying or relocating, the Polokwane Municipality will take responsibility for the damages.
k) Prior to full scale delivery, the VIP latrine backlog eradication programme will be reviewed on an ongoing basis and recommendations made to reduce life cycle costs and harmonise the capital expenditure with the maintenance budget.
l) The scheduling of emptying programmes should take cognisance of observed filling rates associated with actual pit volumes. The frequency will be subject to the

volume of the pit provided but will typically be no less than 5 years between maintenance tasks performed by Polokwane Municipality.

m) The Polokwane Municipality will monitor the pit filling rates on an annual basis.

n) The Polokwane Municipality will make allowance for ad-hoc pit emptying for pits that fill up more quickly than expected.

o) For large households (a large household is where the number of family members are permanently residing at households exceeds 7) where the standard pit size is insufficient for a 5-year emptying cycle, Polokwane Municipality will consider the provision of a second latrine or larger pit.

p) Where the useful pit volume beneath a fixed structure is less than 1.5m, or is insufficient to the size of household, (due to design, shallow groundwater, sanitation provision in a particular community and perform a cost benefit analysis to assess whether one of the following options may be more cost effective than the high frequency of emptying:

   i. Replace fixed latrine with a moveable structure over a new pit.

   ii. Pit contents must not be disposed into sewers or Wastewater Treatment Works as this is likely to overload the biological process and lead to plant failure.

q) Improved solid waste management should be implemented by the municipality, through re-use, recycling, reduction and collection. This will prevent the accumulation of solid waste in latrine pits and will therefore slow down the rate of pit filling. (*This practice could extend the pit life by 50% resulting in significant cost savings on the VIP latrine maintenance plan).*

r) Service providers will be paid based on the volume of waste emptied from the pit.

s) The method for pit emptying shall be selected by service provider but will need to be approved by the Polokwane Municipality. In selecting a methodology, the service provider must take due attention of the Specification for pit emptying which requires minimum spillage of sludge and appropriate occupational health and safety provision for workers and the public.

t) An awareness programme or end-user education will run parallel with emptying of latrines. This programme will inform households of their obligations to look after their latrine in accordance with this policy.

u) Households failing to comply with the requirements identified in the awareness programme will be charged in full for the cost of repairs and will be charged proportionally for the additional cost of emptying (i.e., of the pit is found to contain 40 % of the cost of solid waste they will be liable for 40% of the cost of emptying).

6.2.3. INTERIM SANITATION SERVICES

Problem Statement

The municipality is obliged by the constitution to provide sanitation services to all residents within its jurisdiction. This includes those living in informal settlements, privately owned land, rural areas and other in-formalised settlement types.

The municipality is faced with the challenge of mushrooming informal settlements that demand and need sanitation services. These unplanned and informal settlements are not established within the specifications of the municipality's wastewater treatment works system which then limits the municipality's ability provide sanitation services through the conventional methods.

Policy Position

a) Interim sanitation services will be provided for residents dwelling on informal settlements and privately owned land until such a time that tenure can be secured for the provision of permanent sanitation services.

b) The type services will vary based on factors including but not limited to, location, population density, availability of bulk water infrastructure and reticulation.

c) Polokwane Local Municipality or any Water Service Provider will not provide or make use of the bucket toilet systems to communities in both formal and informal settlements.

6.2.4. SANITATION DURING EMERGENCY AND DISASTER SITUATIONS

Problem Statement

Recently there has been an increase in natural disasters which has left water and sanitation infrastructure extensively damaged, leaving many without access to basic and sanitation services.

Policy Position

a) Whenever basic sanitation services cannot be provided, the Water Services Act (1997) provides for the procedure to limit or discontinue water services in case of emergency situations. Furthermore, section 21(2) (e) (i) *mandates that every water services authority must make bylaws which may provide for the general limitation or discontinuation of water services where (i) national disasters cause disruptions in the provision of services or (ii) sufficient water is not available for any other reason.*
b) Disaster situations will be responded to in compliance with National Disaster Management Act.
c) For the purpose of this policy, the municipality shall provide sanitation services as outlined within "Interim Sanitation Services."
d) The municipality will provide reasonable and appropriate alternative temporary sanitation solutions for its residents until such a time that basic sanitation services can be restored. The municipality will inform users of any interruption in its network to ensure compliance with written notices issued under Schedule 3, section 6 of the National Water Act.
e) As per the National Sanitation Policy of 2016, the municipality will ensure that sanitation during emergency and disaster situations will be:
    i. culturally and socially accepted,
    ii. reflect the vulnerabilities, needs and preferences of the affected population,

f) The municipality is committed to applying reasonable measures to uphold the dignity of its people and reducing the transmission of faecal oral diseases during such situations through the promotion of:
   i. Good hygiene practices;
   ii. The provision of safe drinking water;
   iii. The reduction of environmental health risks
g) During such times, the municipality's operation and maintenance budget and available grants shall be used to conduct repairs on affected infrastructure.

6.2.5. GREYWATER MANAGEMENT

Problem Statement

Greywater is often perceived as clean compared to blackwater which carries substantial health and environmental risks. It can harbour disease-causing organisms, suspended matter, and chemicals from various household products. The quality of greywater fluctuates based on household factors, including occupants' habits, health, and product usage. High variability arises due to diverse sources such as soaps and cleaning agents. Excessive salts and chemicals in greywater pose threats to soil structure and vegetation, leading to reduced water absorption capacity and potential ecological damage. Effective management strategies, particularly in reducing sodium content, are crucial to mitigating these risks and ensuring safe greywater reuse practices. There is high prevalence of misguided use greywater in households.

Policy Position

a) Untreated greywater (from a greywater diversion device) must only be used via subsurface irrigation. Subsurface irrigation systems reduce exposure to humans, pets and other animals which may otherwise come into contact with the untreated greywater and potentially transfer disease causing organisms.
b) Specific setback distances from buildings, boundaries, wells, bores, watercourses, swimming pools and rainwater tanks are required to be met for all irrigation systems. This is to prevent contamination and transmission of disease.

c) Greywater must not be used in a manner that will result in direct contact with vegetables or other edible plants eaten uncooked. It may be used to irrigate above-ground food plants such as fruit trees and leaf vegetables where the fruit or edible vegetable part does not make direct contact with the greywater.

d) Greywater must be contained within the confines of the premises on which it is generated and not be permitted to run off onto neighbouring properties.

e) Greywater must not run onto driveways or any hard surfaces where it can run into the street and into stormwater drains and eventually into surface waters e.g., rivers and dams.

f) Only products with no or very low phosphorus content should be used. Phosphorus content can range from a low content of 0.05% up to 10% in various detergents. Low or no phosphorus products will mean less phosphorus can possibly reach waterways via subsoil flow, runoff or stormwater, which can create serious water quality problems. The use of any phosphate rich washing powder will poison your soil over the long term. There are phosphate free washing powders on the market, and these must be used.

g) Greywater tends to be slightly alkaline, with a typical pH range of between 6.5 and 10.5, and the extensive use of greywater for irrigation could cause the soil to become progressively more alkaline. A washing detergents ability to remove stains is linked the pH. Soil and greases are more easily removed at a high pH. Shade loving and acid loving plants do not like the alkalinity of greywater. These include azaleas, camellias, gardenias, begonias and ferns.

h) Washing powders that contain sodium salts as bulking agents should be used sparingly. High levels of sodium can produce saline (i.e., salty) greywater. Sodium is detrimental to plants, can damage soil structure, reducing the air space, giving it a greasy texture and poor drainage capability. Liquid detergents (instead of powders) or products which use potassium salts should be used as they produce better quality, less saline greywater.

6.2.6. FAECAL SLUDGE MANAGEMENT

Problem Statement

The ever-growing population and subsequent increase in waste has placed stress on the wastewater collection and treatment. The municipality has seen growth in the number of customers using alternative methods to dispose of wastewater and faecal sludge, many of which are unregulated and add further stress on the wastewater treatment plants. There is a need for the municipality to regulate such activities. There is currently no adequate faecal sludge management plan.

Policy Position

a) The municipality or the authorised provider, may, at its discretion, and subject to such conditions as it may specify, accept faecal sludge transported by honey suckers for disposal delivered to the municipality's wastewater treatment plants. Industries are required to comply with the policy prescripts.
b) No person shall discharge faecal sludge into the municipality's wastewater treatment plants by road haulage except with the written permission of the municipality or the authorised provider, and subject to such period and any conditions that may be imposed terms of the written permission.
c) The charges for any faecal sludge delivered for disposal to the municipality's wastewater treatment plants shall be assessed by the municipality or the authorised provider, in accordance with the prescribed tariffs of charges.
d) No disposal of faecal sludge by honey suckers at any point that has not been approved by the Municipality is allowed.
e) When faecal sludge is delivered by honey suckers-
    i. The time of delivery shall be arranged with the municipality or the authorised provider, and
    ii. The nature and composition of the faecal sludge shall be established to the satisfaction of the municipality or the authorised provider, prior to the

discharge thereof and no person shall deliver faecal sludge that does not comply with the standards laid down in terms of these municipality by-laws.

f) The municipality or the authorised provider, may withdraw any permission, after giving at least fourteen days written notice of its intention to a person permitted to discharge faecal sludge by honey suckers if the person -
   i. fails to ensure that the faecal sludge so delivered conforms to the standards prescribed in the written permission; or
   ii. fails or refuses to comply with any notice lawfully served on him or her in terms of any permission granted to him or her; and
   iii. fails to pay the assessed charges in respect of any faecal sludge delivered.
g) In the reuse of water, the Polokwane Municipality must strive for the best practicable protection of health and environmental option that will maximise social and fiscal benefits in an integrated way with water supply and other municipal services.

6.2.7. WASTEWATER SLUDGE MANAGEMENT

Problem Statement

Sludge disposal methods are still dominated by on-site disposal methods such as onsite stockpiling and burying. This limited approach to faecal sludge management has been perpetuated by the limited knowledge on the beneficial use of sludge. It is important that the municipality applies the "reduce, reuse, recycle & reclamation" principles and view faecal sludge as a resource rather than waste material.

Policy Position

a) Wastewater sludge needs to be classified in accordance to part 6 of the "Guidelines for the utilisation and Disposal of wastewater sludge".
b) Guidelines are to be used to establish which management options are suitable for the sludge for the type and quality of sludge generated by the wastewater treatment works.

c) The result of analysis of samples needs to be utilised to classify the sludge which is determined by the microbiological, stability and pollutant quality of the sludge thereafter the sludge may be used based its classification.
d) Agricultural use of sludge as soil conditioner or manufacturing compost not destined for use by the public.
e) Disposal of sludge on or off-site including creation of stockpiles, existing dedicated sludge land disposal site, onsite disposal of sludge in a mono disposal landfill or lagoon or by marine discharge.
f) Utilising of the sludge in a beneficial manner (other than agricultural use) such as for rehabilitation of mine deposits, aiding in the remediation of contaminated soil, as an adsorbent as a nursery growth medium, once off high-rate land application, capping of landfills, beneficial land application at high loading rates and amelioration of degraded soils.
g) Using thermal treatment methods including incineration of the sludge in dedicated incinerators or by means of incineration in furnaces, cement kilns etc.
h) Using sludge to produce saleable products including pellets, compost for sale to the public, manufacturing of bricks, paving, artificial rocks and other products as well as brick making.

7. WATER SUPPLY AND SANITATION SERVICES ON PRIVATELY OWNED LAND

Problem Statement

Many people living on privately owned land lack access to essential water supply and sanitation services, impinging upon their dignity and constitutional rights. Local government initiatives to provide these services face challenges, including limited access to privately owned land by municipal officials and complicated tenure arrangements, leading to service delays. Equitable access to basic services is a fundamental right, enshrined in the Constitution and guiding Acts. The issue is particularly complex in private land settlements, requiring consideration within broader spatial development, housing delivery, poverty alleviation, and skills development

goals. This policy recognises the real challenges posed by property owners or local authorities hostile to municipal services in communities settled without authorisation, emphasising the urgent need for basic services for individuals in privately owned land.

Policy Position

a) The municipality has an obligation to provide water and sanitation services to those people living on privately owned land who are not receiving such services from the landowner.
b) All available mechanism shall be explored and used to provide permanent services to those dwelling on privately owned land. Until such a time that this can be achieved, the municipality will provide interim services as outlined in the Water and Sanitation Services Policy on Privately Owned Land
c) The Municipality will in its bylaws put prescripts that gives them power to enter any private land for the provision of water and sanitation services.
d) Landowners are encouraged to be accommodative of the municipal's effort to provide water and sanitation services to people living on privately owned land.
e) Any landowner, that refuses the municipality to dispatch its duty, will be subjected to various actions by the municipality, that includes getting a servitude for that land or the municipality will expropriate the land.
f) In planning for the provision of water services on privately owned land the particular circumstances prevailing should be taken into account.
g) Where the landowner is providing or prepared to provide water services to the settlement, a contract between Polokwane Municipality as the WSA and the landowner as intermediary or water services provider must be negotiated and established.
h) The landowner must guarantee the protection of the settlement's existence at that location for at least 20 years.
i) Residential complexes and estates will not be regarded, for the purpose of this policy, privately owned land.
j) The municipality will provide water and sanitation infrastructure up to Basic Services level to all households in the settlement.

k) Where water is provided to the property from a source other than a municipal main, water to the settlement from that same source may be negotiated.

l) Where municipal piped water is provided to the property, the water main to the settlement:

   i. Will be connected to the water supply line to the property with a water meter at both connections.

   ii. The water usage of the property will be determined by subtracting the settlement's reading from the meter at the entrance of the property.

   iii. No external draw-off to be connected beyond the meter at the settlement.

m) Any upgrading required to the property supply line and meter up to Basic Services level will be to the Municipality's account.

n) The intermediary or water services provider contract may extend the offer of rebates to include other municipal services on the property provided such rebates are transparent, legal and in proportion to the higher level of service provided to the occupants of the settlement.

o) Where Polokwane Municipality is not able to negotiate the landowner to accept being a party to a contract as an intermediary, or a water services provider, the municipality will be the one providing the services and other methods of resettling the community onto municipal land will be explored.

p) In terms of this Policy, Polokwane Municipality commits itself to the following principles:

   i. To strive to promote job creation, poverty eradication and the development of skills and the creation of employment opportunities in the development and implementation of services.

   ii. To ensure that sanitation improvement is accompanied by environmental and health and hygiene promotional education and preserving the dignity of all people.

   iii. To ensure that water services planning strives for the best practicable environmental option that will maximise health, social, and environmental benefits in an integrated way with water supply and other municipal services, with consideration of the temporary nature of the service.

iv. To ensure that the development of water services is linked to municipal policies dealing with indigence through the provision of basic services and the progressive use of the equitable share.

v. To establish fair and equitable procedures and processes whereby the owners of the property on which the informal and transient settlements are located could request water services in order to start the process.

vi. To ensure that for provision of water services for settlements that are accommodated by private landowners, the circumstances prevailing is taken into account.

8. OPERATION AND MAINTENANCE OF WATER SUPPLY AND SANITATION SERVICES INFRASTRUCTURE

Problem Statement

Management of infrastructure has a great impact in the efficient provision of water supply and sanitation services to Polokwane Municipality. This is compounded by insufficient budget allocated for operation and maintenance of infrastructure has been long-standing problem, vandalism of infrastructure by communities – illegal connections and lastly no asset management plan in place.

Policy Position

a) Allocation of sufficient budget to ensure operation and maintenance of water supply and sanitation infrastructure.

b) A business plan will be drafted to request funds from municipal and national coffers to ensure there is sufficient budget for operation and maintenance of infrastructure resources.

c) An Asset Management Plan that covers both water and sanitation services will be developed to ensure cost-reflective management. This plan will also encompass operation, maintenance and repair costs during emergency and disaster situations.

d) The municipality will educate end users on the proper management and use of all water supply and sanitation services infrastructure.
e) Municipality is responsible for the maintenance of the infrastructure up to the boundary user connection, the maintenance of the infrastructure within the boundary of the yard is the responsibility of the owner.

9. FINANCIAL MANAGEMENT

Problem Statement

Finance is one of the key drivers of service delivery within a municipality, it is therefore essential that the municipality is able manage its finances effectively to be able to continue to provide services to its customers. The municipality is faced with many financial challenges which significantly impact on its ability to finance its programs. These include but are not limited to:

a) The inability to collect revenue and for services provided,
b) Inconsistent setting of tariffs,
c) Lack of communication during tariff setting, and
d) Tariff setting is not cost reflective.

Through addressing these financial issues, the municipality will have the needed financial means for providing services.

Policy Position

a) For the municipality to achieve its financial goals, the municipality shall:
    i. Develop a cost reflective tariff plan that is in line with the national standards
    ii. Develop and enforce credit and debt control policies.
    iii. Develop and implement a budget that shall link the municipal budget with indigent support.
b) The municipality is looking at ringfencing finances specifically for water and sanitation services to use specifically for water supply and sanitation services related issues.

c) The municipality will charge all households within its jurisdiction for all water supply and sanitation services rendered in accordance with the municipalities tariff plan.
d) Qualifying indigent households who are registered on the indigent register will be subsidised by the municipality as outlined in the municipality's indigent policy.
e) A comprehensive financial management policy will be developed by the municipality.

10. TERMINATION, LIMITATION, AND DISCONTINUATION OF WATER SUPPLY AND SANITATION SERVICES

Problem Statement

The Municipality is entrusted with safeguarding customers' rights by guaranteeing access to essential services within its jurisdiction. Yet, the disparity between customer rights and corresponding responsibilities has created a precarious situation for both parties. Challenges such as non-payment, unauthorised connections, and vandalism by customers have severely hampered the municipality's service provision. While customers are entitled to these services, they must acknowledge their duty to pay for them and refrain from tampering with water and sanitation infrastructure or unlawfully accessing these vital services. This disconnects between rights and responsibilities has led to a problematic scenario affecting both the municipality and its customers.

Policy Position

a) Persons found to be illegally connected or reconnected to municipal services, tampering with meters, reticulation network or any other supply equipment or providing any unauthorised service associated with the supply of municipal services, as well as theft and damage to municipal property, will be prosecuted and/or liable for penalties as determined from time to time.
b) The municipality will immediately terminate the supply of services to a customer should such conduct as outlined above be detected.
c) The Water Services Act Section 4(3)(c) states that procedures for limitation or discontinuation of water services must not result in a person being denied access

to basic water services for non-payment, where that person proves, to the satisfaction of the relevant water services authority, that he or she is unable to pay for basic services.

d) Customer may terminate an agreement for the provision of water services by giving notice to the municipality in writing not less than 30 days intention to do so.

11. CUSTOMER RELATIONS

Problem Statement

The implementation of Batho Pele principles has redefined the relationship between municipalities and customers, emphasising the crucial need for a positive and efficient interaction. Establishing clear and direct communication channels is vital for maintaining customer relations. The absence of effective communication negatively impacts the municipality's ability to tailor services to specific customer needs. Customer relations management fosters loyalty, trust, and satisfaction, potentially increasing willingness to pay for services, ensuring the continuous sustainability of service provision.

Policy Position

a) Customer service excellence shall be promoted through the promotion of the Municipality's core values and customer-centric culture among staff.
b) The current customer management system shall continuously be improved as a means of enhancing a positive mutual relationship between the Municipality and its customers.
c) The public shall be encouraged to use existing platforms to engage with the Municipality through customer care platforms for complaints, service delivery interruptions or other service requests.
d) The Municipality commits to resolve complaints and/or service interruptions according to the turnaround times stipulated in its Consumer Charter.
e) Communication and stakeholder engagement strategies shall be reviewed and improved in order to keep the public informed about all aspects of the services rendered.

f) Staff training and refresher sessions on customer care or focus and the related code of conduct shall be promoted and extended beyond just front-line staff but will include all staff.
g) Customer satisfaction shall be evaluated through annual surveys, the outcome of which shall be shared with relevant stakeholders and made available to the public on the Municipality's website.
h) The Municipality shall continually build trust and transparency as a means of improving customer satisfaction year on year.

12. RESEARCH AND INNOVATION

Problem Statement

Rampant high-water consumption is depleting the municipality and country's already scarce water resources. Current waterborne sanitation systems, characterised by excessive water usage, urgently require enhancement to promote water conservation.

Policy Position

a) High-quality, relevant and focused research shall be supported in order to supply solutions to challenges faced by the Municipality and contribute to its vision by providing a platform to explore meaningful technologies, systems and other innovative ideas.
b) All research work done in the Municipality shall be internally coordinated and a database developed, managed and updated, as required.
c) Research studies done by or in partnership with institutions of research/learning shall be managed in accordance with related Municipality policies and agreements.
d) The Municipality shall not undertake research and product testing on behalf of a private person or institution that is seeking acceptance of its product.
e) All information and proof of performance required by the Municipality to measure the acceptability of a product must be supplied by the applicant at their own cost.

f) The Municipality may, however, wish to conduct further in-house testing on a product to either clarify or confirm certain data or information supplied by the applicant.
g) Once evaluated, should the product satisfy the minimum requirements, the Municipality may, in principle, consider the product for future use if so required, through the standard procurement processes and subject to compliance with all applicable policies, by-laws and legislation.
h) All relevant policies and procedures shall be adhered to at all times.

13. IMPLEMENTATION PLAN

The implementation of this Policy shall be ongoing. The operational components of this Policy shall be contained in other policy-related instruments, including but not limited to, internal policies, strategies, procedure manuals and plans. Where this Policy applies to other stakeholders, internally and externally, the municipality shall facilitate the interface required to give effect to this Policy and report progress to oversight stakeholders, as may be required.

14. MONITORING, EVELAUTION AND REVIEW

The monitoring and evaluation of this Policy shall be against a set of key performance indicators that currently exist and, where applicable, those to be established upon adoption of this Policy. This Policy shall be reviewed and updated when operational challenges or legislative changes require this, but at least once during every term of Council.

15. APPROVAL

The municipality will follow its standard policy approval process.

POLOKWANE

LOCAL MUNICIPALITY

CITY OF Polokwane

NATURALLY PROGRESSIVE

DOCUMENT NAME:	**WATER & SANITATION: OPERATIONS AND ASSETS MAINTENANCE PLAN**
DIRECORATE:	WATER AND SANITATION
APPROVED BY:	COUNCIL RESOLUTION NO: DATE:

Signature: _____

NAME: MR TM THABA

Director Water and Sanitation

Date:

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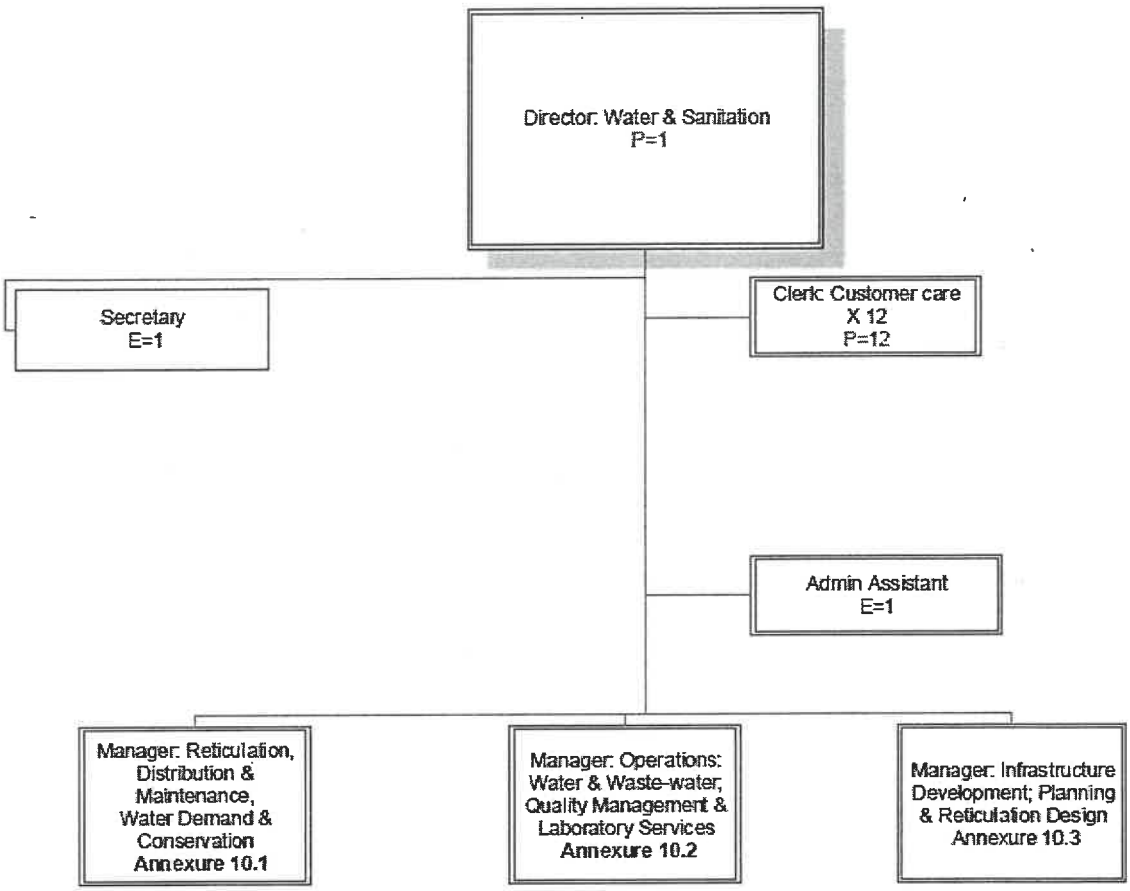
Abbreviations and Acronyms

ML/D	Mega Litres per Day
WTW	Water Treatment Works
WWTW	Wastewater Treatment Works
PS	Pump station
PRV	Pressure Reducing Valve
EXT	Extensions
PPE	Personal Protective Equipment
PPC	Personal Protective Clothing
WSA	Water Services Authority
SANS	South African National Standard
BNR	Biological Nutrients Removal

SECTION 1

1. OWNERSHIP AND DESIGNATION

1.1. High Level Organisational Structure



1.2. Contact Details

Contact Numbers

- **Municipal Call Centre:** 015 290 2000 / 015 023 5000
- **Dedicated Water and Sanitation Helpline:** 015 290 2376
- **WhatsApp:** 068 290 8736

Postal Address

- P.O. BOX 111 Polokwane, 0700
- Civic Center, Cnr Landros Mare & Bodenstein Streets
- Polokwane, 0699, South Africa

SECTION 2

2. WATER SUPPLY SERVICES

2.1. Introduction

Polokwane Municipality is one of 144 Water Service Authorities' (WSAs) that are responsible for water supply and sanitation services provision. Water Services Authorities have a legal mandate to ensure that all South Africans, and in this case Polokwane Municipality residents are provided with basic water supply and sanitation services that comply with set standards (SANS 241) and prescribed regulations.

Provision of water in accordance with the obligations of the municipality as Water Services Authority is a high priority. The supply areas consist of the City and urban areas as well as an extensive rural area, and both urban and rural areas are facing severe challenges in terms of water services.

Polokwane Municipality has 16 Regional Water Schemes that are supplied by both Surface Water & Underground Water. However, majority of the rural water schemes are fully dependent on boreholes.

2.2. Surface Water Sources

There are eight (8) surface water sources supplying Polokwane Local Municipality. Two (6) are operated by Lepelle Northern Water Board and the remaining six (6) are operated by the municipality.

Table 1: Polokwane LM Surface Water Sources.

No.	Water Source	Source Capacity	Operator
1.	Ebenezer Dam	32 Ml/d	Lepelle Northern Water
2.	Olifants Weir	27 Ml/d	Lepelle Northern Water
3.	Dap Naude Dam	18 Ml/d	Polokwane Municipality
4.	Molepo Dam	6 Ml/d	Polokwane Municipality
5.	Chuenespoort Dam	2.7 Ml/d	Polokwane Municipality
6.	Seshego Dam	3.9 Ml/d	Polokwane Municipality
7.	Utjane Dam	1.5 Ml/d	Polokwane Municipality

8.	Houtriver Dam	3.9 Ml/d	Polokwane Municipality

2.3. Ground Water Sources

Polokwane Municipality is operating several ground water sources (wellfields) to augment surface water resources. These wellfields can be found in both the Polokwane Urban Complex and Rural Water Schemes.

2.4. Water Treatment Works

The municipality currently operates six (6) main water treatment plants which abstract raw water from the surface water sources listed in Table 1. Furthermore, the municipality has individual package plants which are used for the treatment of borehole water.

Table 2: Polokwane LM Water Treatment Plants and Package Plants.

No.	Water Treatment Plants	Location
1.	Molepo WTW	Molepo Dam
2.	Chuene Maja WTW	Chuenespoort Dam
3.	Mashashane WTW	Mashashane
4.	Dalmada WTW	R71 Myngenoegen next to Pepps
5.	Seshego WTW	Zone 6 next to Seshego Dam
6.	SRN Manganese Plant	Asbes street
7.	Houtriver Package Plant	Mamadila/Houtriver Dam
8.	Laastehoop Package Plant	Ga-Maboi
9.	R71 RO Package Plant	R71 Mothibaskraal

2.5. Portable Water Distribution Infrastructure

The portable water distribution infrastructure of Polokwane Municipality can be broken down into different components including, Service reservoirs, Pump Stations, Reticulation Networks and Accessories.

The configuration of the existing bulk water infrastructure (reticulation network) is such that a centralised approach is taken, where surface water and groundwater

from various identified borehole supply areas is collected at a centralise position, treated and routed to nearby service reservoirs. The water from the service reservoirs is then routed directly into the reticulation network for supply to domestic users and commercial users.

Table 3:Polokwane LM Portable Water Pump Stations.

No.	Water Pump Station	Location
1.	Solomondale PS	Solomondale
2.	Serala View PS	De Wet street next to Serala View Dam
3.	Marshall Street PS	Cnr Marshall & Bok street
4.	Ivydale PS	Cnr Marshall & Smuts street
5.	Ivy Park Ext 34	Ext 34
6.	Sand River South PS	Next to Nelson Mandela Dr Bridge
7.	Bloodriver PS	Bloodriver Next to U-Save
8.	Matobole PS	Matobole
9.	Mothiba PS	Ga-Mothiba
10.	Nare Letsoalo	Mothiba Ngwanamago
11.	Monakadu PS	Ga-Mothapo
12.	Kgwara PS	Moshate
13.	Utjane PS	Mashashane - Utjane Dam

2.6. Sewer Reticulation Infrastructure

Polokwane LM has a wide range of sewer reticulation network that collects and conveys wastewater from households, industries and institutions to the wastewater treatment plant. The wastewater normally gravitates to the treatment plant. Where the topography does not allow, sewer pump stations are constructed.

The municipality has a total of six (6) sewer pump station that helps in lifting the hydraulic gradient of the wastewater.

Table 4:Polokwane LM Sewer Pump Stations.

No.	Sewer Pump station	Location
1.	Mall of the North Sewer PS	Behind Woodhill Estate
2.	Ext 44 Sewer PS	Next to Nelson Mandela Dr Bridge

3.	Chroom Street Sewer PS	Chroom Street
4.	Ext 29 Sewer PS	Dendron Road Next to Sasol
5.	Mashinini Sewer PS	Mashinini
6.	Ext 133 PS	Ext 133

2.7. Wastewater Treatment Plants

Polokwane LM currently operates a total of three (3) wastewater treatment plants located in Mankweng, Polokwane and Seshego.

Table 5:Polokwane LM Wastewater Treatment Plants.

No.	Wastewater Treatment Plant	Capacity
1.	Polokwane WWTW	25 Ml/day
2.	Seshego WWTW	7.6 Ml/day
3.	Mankweng WWTW	7.6 Ml/day

SECTION 3

3. PLANNED MAINTENANCE WORK – WATER AND SEWER RETICULATION

3.1. Water pipes

Polokwane LM has put in place a plan to replace the old asbestos cement water pipelines. The replacement program depends on the availability of budget.

3.2. Flushing of Mains

Routine flushing of "dead-end" mains is essential to avoid deterioration of the quality of water. Flushing will be conducted during periods of low water demand. Prior to flushing, water and sanitation unit will notify the customers who may be affected of the dates.

Flushing Procedures to be followed:

- Valves are opened and closed slowly to prevent water hammer.
- Flushing of Mains will be performed quarterly at identified problematic areas.
- Direct water away from traffic, pedestrians, underground utility vaults and private lands.
- Confirm, that storm drains or natural water courses can handle the flow.

- Open hydrants or blow-offs for a period long enough (5-10 minutes) to stir up deposits inside the water main. Then flush until water is clear (sometimes 30 minutes or longer).
- Record total water used on water loss report
- Compile report with details of the flushing conducted. Form 1 of Annexure A can be used to record flushing conducted.

Form 1: Flushing of Mains

NO.	DATE	LOCATION	START TIME	STOP TIME	TOTAL MINUTES	VOLUME OF WATER LOST	INITIALS

3.3. Strainers/Dirt Boxes

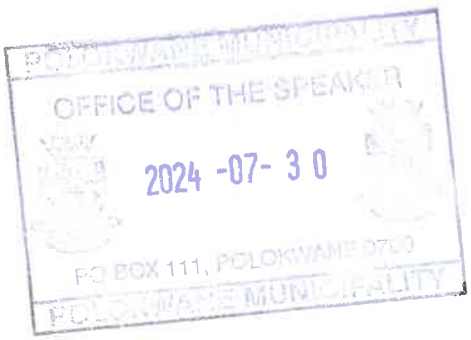
Strainers/Dirt boxes need to be inspected and cleaned regularly at least once per year.

3.4. Bulk Consumer Meters and Zonal Meters

Bulk meter strainers to be inspected and cleaned at all bulk zonal meters and top water consumer meters for the 2023- 2023 financial year. The list of consumers will be sourced from billing system and handed to operations to conduct cleaning at these sites.

The procedure for cleaning strainers will be as follows.

- Notify customers of the temporary water interruption before closing water
- Monitor the meter to see if the meter is turning to verify that the valves are closed
- Carefully use the spanners to open the strainer box
- Carefully removed the strainer and clean the inside the strainer fully
- Make sure that there are no debris stuck in the meter
- Reinstate the strainer cover, care must be taken to ensure that the rubber seal is properly in place.
- Open the water and monitor the strainer for leaks



Form 2:Strainer Cleaning.

NO.	DATE	LOCATION/ADDRESS	METER SERIAL NUMBER	METER AND STRAINER SIZE	NAME OF CLEANER	SIGNATURE

3.5. *Reservoir Cleaning*

Reservoirs must be entered, cleaned, jetted, inspected and repaired at a maximum frequency of at least three years. The below reservoirs are scheduled for cleaning in per financial year. An external service provider will be appointed to assist with the cleaning of reservoirs.

Table 6:Reservoirs scheduled for cleaning per financial year.

No.	Reservoir
1.	Krugersburg Reservoirs.
2.	Chuene Maja Plant Reservoirs.
3.	Mankgaile Steel Tank.
4.	Ga-Thoka Steel Tank.
5.	Seshego Reservoir.
6.	Madikoti Reservoirs
7.	Houtriver Plant Reservoirs
8.	Mashashane Plant Reservoirs

3.6. *Gate Valves*

Gate valves should be worked on at regular intervals but at least once a year to keep the gland packing supple and to ensure that the gate travels freely in its groove. The valves used for day-to-day operation should be operated once a week, if possible, by fully opening and closing each valve in turn noting the ease in operation

Form 3:Valve Audit Form.

NO.	AREAS	STREET NAME (CORNER OF)	VALVE OPERATIONAL	REPAIRS DONE	INITIAL

3.7. Air Valves

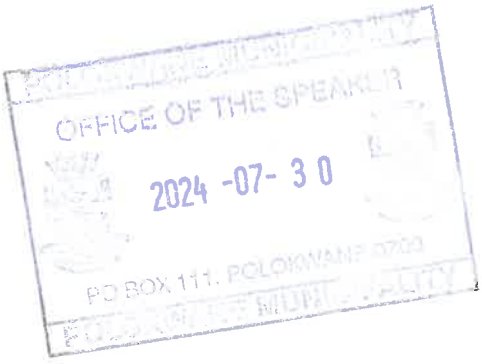
The most common fault in air valves is the sticking of the ball on its seating in the older type valves. All air valves are supplied with independent gate valves so that they can be removed without shutting down the main. Where provided, the bib-cock in the body of an air valve permits the release of the water below the float after the gate valve has been shut. It affords an easy method of ascertaining whether the air valve is working properly. Surface water must be excluded from air valve chambers because of the danger of contaminating the main.

Procedure for examining air valves:

- Air valves will be examined on a quarterly basis.
- Open Air-valve chamber
- Clean the inside of the chamber (remove weeds/papers/plastics, etc)
- Isolating ball valve
- Remove top plate
- Examine ball valve for damages
- Test floating in a bucket of water
- Examine rubber real
- Repair/Replace damaged components

Form 4:Air Valve Inspection.

NO.	AREAS	STREET NAME (CORNER OF)	AIR VALVE OPERATIONAL	REPAIRS DONE	INITIAL

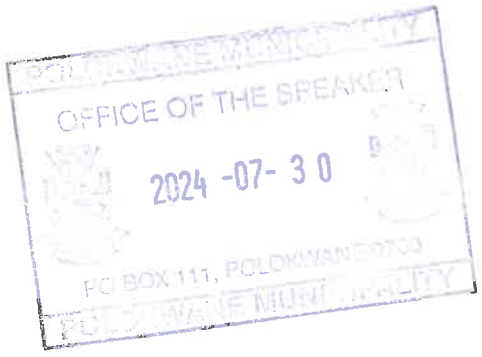


3.8. Fire Hydrants

Fire hydrants should be examined regularly at least twice in a year (every six months) to ensure that the surface box is clear and ready for immediate use and that the valve is not leaking. Pressure and flow tests should be made at intervals and always when alterations or extensions have been made to the distribution system in the vicinity.

Procedure for examining air valves:

- Open fire hydrant chamber (if below ground)
- Clean the inside of the chamber (remove weeds/papers/plastics, etc.)
- Flush the fire hydrant for max of 30 seconds
- Inspect if hydrant is isolating properly
- Examine ball valve for damages
- Replace damaged rubber seal or valve mechanism if necessary
- Repair/Replace damaged components



Form 5:Fire Hydrant Inspection.

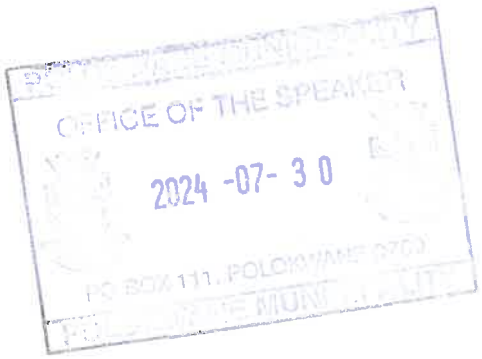
NO.	AREAS	STREET NAME (CORNER OF)	HYDRANT OPERATIONAL	REPAIRS DONE	INITIAL

3.9. Water Meters

Domestic water meters should be replaced after a minimum of ten years and a maximum of fifteen years use. Industrial and bulk meters should be replaced at more frequent intervals. The life of water meters should be established for the area by analysis of records as it is a question of economics and local conditions which must be evaluated.

The billing system records will be used to identify meters that are more than 10 years on the ground.

Top Consumer meter audits should be conducted on a monthly basis to ensure that users are correctly metered.



Form 6:Top Consumer Meter Audit .

		Meter Reference Number:	

TOP CONSUMER METER AUDIT

Consumer Name:			Installation Name:		
Street Address:					
GPS Co-ordinates (dd,ddddd°)	South:		East:		
Inspected by:					

1st Audit Date:			**2nd Audit Date:**		
Meter Details:	**Main**	**By-Pass**	**Meter Details:**	**Main**	**By-Pass**
Make:			Make:		
Model:			Model:		
Size: (mm):			Size: (mm):		
Meter Factor (x1,x10,x100)			Meter Factor (x1,x10,x100)		
Serial Number:			Serial Number:		
Meter Reading			Meter Reading		

Comments/Recommendations

Photo 1 **Photo 2**

Photo 3 **Photo 4**

3.10. Pressure Reducing Valves

Pressure-reducing valves where fixed on by-passes with isolating valves allows maintenance work to be done without shutting down the main. Routine inspection at least on a quarterly basis by experienced staff or the supplier is essential to their continuous effective operation

General Trouble Shooting Procedure for PRV

- Identify what the problem is before you try to solve it.
    - Is the valve failing to close? – If yes is it because the pilot valve is failing to close?
    - Is the valve failing to open? – If yes is it because the pilot valve is failing to open?
    - Is the valve failing to regulate?
- Start with easy checks on control circuit (i.e. check pressure gauges, is there upstream pressure? is the downstream setting correct? is there flow? check if ball valves are open.
- Then follow the flow through the control circuit until you find a potential problem. (filter, needle valves or restrictor, tubing)
- Then (if necessary) check pilot.
- Then (if necessary) check main valve.

Form 7:PRV Audit.

POLOKWANE MUNICIPALITY PRV AUDIT SHEET

Inspection Date:		***Street Address:***	
GPS - South (dd,ddddd°):		**GPS - East (dd,ddddd°):**	

Contal Valve	***Primary***	***Secondary***	***Meter***	***Primary***	***Secondary***
Make:			*Make:*		
	Baker, Bermad, Cla-Val, Hayday, Roll Seal			Kent, Actaris/Schlumberger, Sensus/Invensus/Meinecke	
Size: (mm):			*Model:*		
				WP, WP-Dynamic, WS, WSD, Meitwin, Helix 2000/3000/4000/Master	
Function:			*Size (mm):*		
	PRV, FCV, Prelease, Altitude, See Comments				
Low Flow Control: (Y/N)			*Serial No:*		
Low Flow Control Type:			*Flow Factor:*		
	Gunzenhauser, JR Gured				

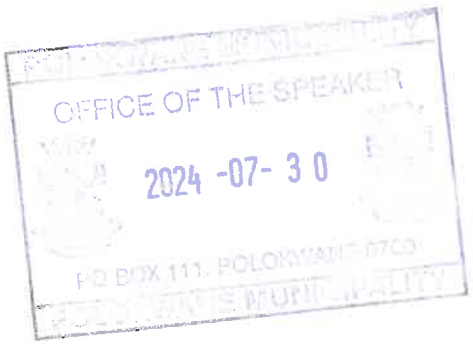
General Chamber Conditions:	
Manhole Cover:	
Yes	
No	
Standing Water:	
Yes	
No	
Chamber Cleanliness:	
Good	
Average	
Poor	

	Primary	***Secondary***
Upstream Pressure (m):		
Downstream Pressure (m):		
Controller Type:		
Controller Low Setting (m):		

Comments/Recommendations:

Photo Numbers: to

Installation Schematic:



Completed By: _____ Data Checked By: _____ Date: _____

3.11. Sewer Reticulation

The sewer reticulation maintenance plan outlines the strategies and procedures to ensure the proper upkeep of the sewer system to prevent blockages, leaks, and other potential issues. This plan aims to maintain the functionality and efficiency of the sewer system, comply with regulations, and minimize disruptions to the wastewater disposal process.

General Maintenance Procedures:

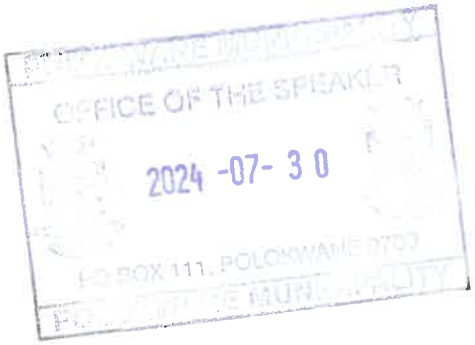
- A Weekly inspection of outfall sewer lines and manholes, should be conducted by the foreman on standby.
- Cleaning, flushing, and descaling of sewer lines on a scheduled basis.
- Repair or replacement of damaged or malfunctioning components.
- Proper disposal of sewage waste in compliance with environmental regulations.

The following sewer outfall lines require regular maintenance and attention to ensure optimal performance and minimize the risk of disruptions and potential environmental hazards:

Table 7: Sewer Outfall Lines Maintenance Guide.

No.	SEWER LINE	Inspection	Jetting
1.	Behind Celtic Meadows and Woodhill Estate	Weekly	Monthly
2.	Magna Via industrial Sewer Outfall towards Polokwane WWTP	Weekly	Monthly
3.	Parliamentary Village Sewer Outfall	Weekly	Monthly
4.	Holland Street Sewer Outfall	Weekly	Monthly
5.	Marshall Street Sewer Outfall	Weekly	Monthly
6.	Westernburg Sewer Outfall	Weekly	Monthly
7.	Bombay/Lawton Sewer Outfall	Weekly	Monthly
8.	Boom Street Sewer Outfall	Weekly	Monthly
9.	Ext 40 Sewer Outfall	Weekly	Monthly
10.	Ext 44 Sewer Outfall	Weekly	Monthly
11.	Ext 71 Sewer Outfall	Weekly	Monthly
12.	Ext 73 Sewer Outfall	Weekly	Monthly
13.	Ext 76 Sewer Outfall	Weekly	Monthly
14.	Ext 75 Sewer Outfall	Weekly	Monthly
15.	Seshego Zone 1 hospital view Sewer Outfall	Weekly	Monthly

16.	Seshego Zone 6 Sewer Outfall	Weekly	Monthly
17	Seshego Zone 2 Soccer Ground sewer Outfall	Weekly	Monthly
18.	Lithuli 9A Sewer Outfall	Weekly	Monthly
19.	Lithuli 9G Sewer Outfall	Weekly	Monthly
20.	Seshego WWTW to Mashinini P.S	Weekly	Monthly
21.	Mankweng Unit A (354 & 43) Sewer Outfall	Weekly	Monthly
22.	Mankweng Unit F (688) Sewer Outfall	Weekly	Monthly
23.	Mankweng Unit G (1614) Sewer Outfall	Weekly	Monthly
24.	Mankweng Unit C (53) sewer Outfall	Weekly	Monthly



SECTION 4

4. PLANNED MAINTENANCE WORK – ELECTROMECHANICAL

This section of the water and sanitation maintenance plan focuses on the electromechanical components, including:

- Pumps (submersible, centrifugal, and positive displacement)
- Motors
- Diesel Engines
- Valves (control valves, check, gate, and butterfly)
- Other equipment (e.g. mixers, aerators, and disinfection systems)

4.1. Pump Stations

Health and safety requirements are very important in pump stations, including not wearing loose clothing, preventing accidental contact with moving equipment, switching off electricity when working on electrical equipment, ear protection and ensuring that pumps are completely switched off (and cannot be switched on automatically) when working on them.

Form 8: Monthly Components Inspection

Pump Station Name:		**Date:**	
Operator/Artisan:		**Signature:**	

	MONTHLY COMPONENTS INSPECTION	**Checked**	
		YES	**NO**
1.	Greasing motor		
2.	Bearing not noise		
3.	Motor Fan cover		
4.	Cabling must be properly trenched far away from walking area		
5.	Foot mount no cracks		
6.	Cooling fins not blocked		
7.	End shields locked tight		
8	Pump and motor stand no vibration		
9.	Install packing's and adjust gland packing to control dripping water		
10.	Inspect coupling if no cracks		
11.	Pulleys		
12.	Rubbers coupling		
13	Gear greasing and covered		
14.	Inspect cracks on V-belts and cover must be always on guard		
15.	Check Light		
16.	No water leakage from fittings or packing's		
17	Oil level		
18	Check nuts and bolt tight		
19	Electrical Panel Components must be inspected if not worn out are likely to make noise (blown)		
20	Greasing Valves opening and closing (physical tested) all plants		
21	Windows not broken and Doors		
22	Floor not cracks		
23	First aid kits available		
24	Aerators cat walk be cleaned once in six months		
25	Dusting of panels NB: ONLY QUALIFIED ARTISAN ELECTRICIAN CAN PERFORME SUCH A DUTY ISOLATE POWER		
26.	All water meter reading must be working properly to account for water loses		

4.2. Water and Wastewater Treatment Plants

Plant maintenance is the cornerstone for extending the longevity of any plant. It is imperative to adhere to good practices and higher standards that will enhance plant performance over a period of time.

This guideline seeks to provide guidance in terms of efficient operation and maintenance of the plants to allow sustainability in keeping the plants in a good condition.

Health and safety requirements are very important in pumps and other machinery, including not wearing loose clothing, preventing accidental contact with moving equipment, switching off electricity when working on electrical equipment, ear protection and ensuring that pumps are completely switched off (and cannot be switched on automatically) when working on them.

4.2.1. Intake

i. Sluice Gates/Valves

Sluice valves are flow control devices that controls flow in the inlet plant at different intervals. Operators are therefore expected to operate the plant in an efficient manner to prevent unnecessary breakdowns during this period.

Table 8: Sluice Gates/Valves Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Open and close sluices	Manual operation of the sluice gate valves need to be undertaken to ensure sustainability of the plant.	Weekly
Grease shafts	The shafts of the sluice gate valves need to be greased to ensure smooth operation throughout.	Monthly

ii. Mechanical Screens

Table 9: Mechanical Screens Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels of gearboxes	Gearboxes of the mechanical screens need to be checked to ensure sufficient lubrication is always maintained at all times	Weekly (Refer to weekly checklist)
Grease pillar bloke	The pillar broke should be greased to ensure maximum lubrication	Monthly
Check gears and chains for expansions of material	Operators will be required to inspect gears and chains to ensure that all expansions of material are detected and appropriate remedial actions are implemented.	Monthly
Remove and service gearboxes	All gearboxes should be removed and fully serviced periodically to enhance their lifespan and performance	Six (6) months

iii. Screw Conveyor

Table 10: Screw Conveyor Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels of gearboxes	Gearboxes of the mechanical screens need to be checked to ensure sufficient lubrication is always maintained at all times	Weekly
Remove and service gearbox	All gearboxes should be removed and fully serviced periodically to enhance their lifespan and performance	Six (6) months

iv. Mechanical Press

Table 11: Mechanical Press Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Ensure there is constant water flow in the press	Gearboxes of the mechanical screens need to be checked to ensure sufficient lubrication is always maintained at all times	Daily (all shifts)
Check if Press is not clogged	The pillar bloke should be greased to ensure maximum lubrication	Every shift

Check oil levels of gearbox	Operators will be required to inspect gears and chains to ensure that all expansions of material are detected and appropriate remedial actions are implemented.	Weekly
Remove and service gearbox	All gearboxes should be removed and fully serviced periodically to enhance their lifespan and performance	Six (6) months

v. Grit Classifier

Table 12: Grit Classifier Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels gearbox	Maintenance personnel will be required to inspect gears and chains to ensure that all expansions of material are detected and appropriate remedial actions are implemented.	Weekly
Remove and service gearbox	All gearboxes should be removed and fully serviced periodically to enhance their lifespan and performance	Six (6) months
Check tolerances between spiral and classifier bottom	The spiral and classifier should be inspected periodically against any tolerances	Weekly

vi. Grit Pumps

Table 13: Grit Pumps Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Remove and service pumps, back plate and motors	All three pumps, back plates and motors should be removed and fully serviced periodically to enhance their lifespan and performance.	Six (6) months

vii. Compressor and Wash Pumps

Table 14: Compressor and Wash Pumps Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Remove and service compressors and grit pumps	Both compressors and grit pumps should be removed and fully serviced periodically to enhance their lifespan and performance	Six (6) months

4.2.2. Primary Settling Tanks and Secondary Settling Tanks

i. Bridges

Table 15: PST, SST and Thickener Bridges Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels	Maintenance resource and operator should check the oil levels and top up as directed	Weekly
Grease pillar blocks	The pillar blocks should be periodically greased to ensure sufficient lubrication	Weekly
Grease centre bearing	The centre bearings need to be greased to ensure sufficient lubrication at all times	Monthly
Check Urethane wheel level	Monitor the wheel and where appropriate inform the supervisor to schedule replacement	Monthly
Strip and remove gearbox drive	The gearbox should be stripped and inspected for wearing out parts and replacement thereof	6 months

ii. Sludge Pumps

Table 16: Sludge Pumps Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels of pumps	Gearboxes of the mechanical screens need to be checked to ensure sufficient lubrication is always maintained at all times	Weekly
Remove cowling check status of v-belts	The pillar broke should be greased to ensure maximum lubrication	Weekly
Check every shift for noisiness of pumps, if so, isolate and remove racks	Operators will be required to inspect gears and chains to ensure that all expansions of material are detected and appropriate remedial actions are implemented.	Daily
Strip and remove pump and motor for servicing	The motors should be serviced/rewired periodically.	6 months

4.2.3. Biological Nutrients Removal (BNR)

i. RECYCLE PUMPS

Table 17: Recycle Pumps Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Grease pillar blokes	The pillar blokes should be greased to ensure maximum lubrication	Weekly
Remove cowling to check status of v-belt	The status of the V-belts needs to be checked frequently on the pumps so that any wear can be identified to prevent breakdowns	Weekly
Remove pump and motor for service	The pumps and motors should be serviced/rewired periodically.	6 Months

ii. MIXERS

Table 18: Mixers Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels of the mixers	Gearboxes of the mixers need to be checked to ensure sufficient lubrication is always maintained at all times	Weekly
Strip and remove mixer and motor for servicing	The motors should be serviced/rewired periodically.	6 months

iii. R-RECYCLE PUMPS

Table 19: R-Recycle Pumps Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Grease pillar blokes	The pillar blokes should be greased to ensure maximum lubrication	Weekly
Remove cowling and check status of v-belts	The status of the V-belts needs to be checked frequently on the pumps so that any wear can be identified to prevent breakdowns	Weekly
Strip and remove pump and motor to service	The pumps and motors should be serviced/rewired periodically.	6 Months

iv. AERATORS

Table 20: Aerators Maintenance Guideline.

Operational Activity	Brief Description	Frequency
Check oil levels of the aerators	Gearboxes of the aerators need to be checked to ensure sufficient lubrication is always maintained at all times	Weekly
Strip and remove aerator and motor for servicing	The motors should be serviced/rewired periodically.	6 months

Form 9: Water & Wastewater Treatment Plant Components Inspection

Plant Name:		**Date:**	
Operator/Artisan:		**Signature:**	

	MONTHLY COMPONENTS INSPECTION	**Checked**	
		YES	**NO**
1.	Greasing motor		
2.	Bearing not noise		
3.	Motor Fan cover		
4.	Cabling must be properly trenched far away from walking area		
5.	Foot mount no cracks		
6.	Cooling fins not blocked		
7.	End shields locked tight		
8	Pump and motor stand no vibration		
9.	Install packing's and adjust gland packing to control dripping water		
10.	Inspect coupling if no cracks		
11.	Pulleys		
12.	Rubbers coupling		
13	Gear greasing and covered		
14.	Inspect cracks on V-belts and cover must be always on guard		
15.	Check Light		
16.	No water leakage from fittings or packing's		
17	Oil level		
18	Check nuts and bolt tight		
19	Electrical Panel Components must be inspected if not worn out are likely to make noise (blown)		
20	Greasing Valves opening and closing (physical tested) all plants		
21	Windows not broken and Doors		
22	Floor not cracks		
23	First aid kits available		
24	Aerators cat walk be cleaned once in six months		
25	Dusting of panels NB: ONLY QUALIFIED ARTISAN ELECTRICIAN CAN PERFORME SUCH A DUTY ISOLATE POWER		
26.	All water meter reading must be working properly to account for water loses		

4.3. Boreholes

Form 10: Borehole Inspection Sheet.

Village Name:					**Borehole Number:**			
Operator/ Artisan:					**Date:**			
Item	**V-belt**	**Motor**	**Base plate rods**	**Mono block tighten**	**Packing's**	**Any suspicious noise from the borehole e.g. pipe noise.**	**The borehole performing well or not (open scour close delivery to check valve**	**Gland packing's rusted or not**
1.								
2.								
3.								
4.								

COMMENT:

NB: ALL BOREHOLES POWERED WITH ELECTRICITY OR ENGINES MUST BE CHECKED DAILY BY OPREATORS.

CITY SESHEGO, MOLETJIE, ANGNANG SIBAYENG, MANKWENG AND CHUENE MAJA CLUSTERS
ALL ENGINES MUST BE FULLY SERVICED AFTER EVERY THREE MONTHS

Form 11: Diesel Engine Inspection Sheet.

Village Name:		**Borehole Number:**	
Operator/ Artisan:		**Date:**	

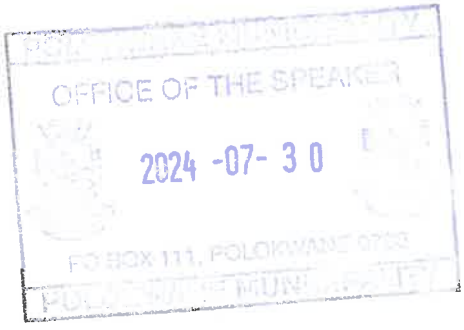
		YES	**NO**
1.	The Oil filter, diesel filter, nozzles, change oil		
2.	Inspect the delivery hose for diesel and diesel must be always clean to avoid valves blockages		
3.	Inspect coupling, pulleys, rubbers, gears if no cracks, seals and Bearing noise		
4.	Check leaks around the flying wheel		
5	Packing inspection , gaskets and seals oil leaks		
6.	Physical test tighten of nuts and bolts if not loosen with relevant tools span		
7.	Inspect v-belts if no cracks		
8.	Alignment of mono block and engine centrifugal switch stator housing		
9.	valve closes and open		

Comments:

NB: HOURS OF THE ENGINE OPERATED IS VERY IMPORTANT WHEN SERVICING THE ENGINE IN ORDER TO CHANGE SPARES FOR LIFE SPAN OF THAT PARTICULAR MACHINERY.

Table 21: Diesel Engine Pump Check List.

	Procedure	Interval				
		8 Hours	250 Hours	500 Hours	1000 Hours	2500 Hours
1	Check fuel tank level	✓				
2	Check coolant level	✓	✓	✓	✓	✓
3	Check drive belts		✓	✓	✓	✓
4	Clean fuel pump strainer			✓	✓	✓
5	Empty water trap	✓	✓	✓	✓	✓
6	Replace fuel filter element			✓	✓	✓
7	Check injector tips for atomization					✓
8	Check and adjust idle speed					✓
9	Check lubricating oil level		✓	✓		
10	Check lubrication oil pressure gauge		✓	✓	✓	✓
11	Replace lubricating oil		✓	✓	✓	✓
12	Replace lubricating oil filter		✓	✓	✓	✓
13	Clean engine breather vent valve					✓
14	Clean air filter element		✓	✓	✓	✓
15	Replace air filter element				✓	✓
16	Clean turbocharger lubricating drain pipes					✓
17	Check condition of the exhaust and silencer				✓	✓
18	Check and adjust the valve tip clearances					✓
19	Check alternator, starter motor, etc.					✓
20	Clean starter battery terminals	✓	✓	✓	✓	✓
21	Check battery electrolyte levels and top up	✓	✓	✓	✓	✓



SECTION 5

5. OPERATION AND MAINTENANCE BUDGET

5.1. Reticulation Distribution and Maintenance

				394 077 165	412 471 545	439 224 593
Bud Year ORIG	SBU	EXPENDITURE CATEGOR	DESCRIPTION	Budget Year 2023/24	Budget Year +1 2024/25	Budget Year +2 2025/26
2024	WATER AND SANITATION ADMIN	Contracted Services	Civil	27 709 000	28 962 873	30 273 255
2024	WATER AND SANITATION ADMIN	Inventory Consumed	Materials and Supplies	270 969	283 704	297 039
2024	WATER AND SANITATION ADMIN	Inventory Consumed	Standard Rated	59 596	62 397	65 330
2024	WATER AND SANITATION ADMIN	Inventory Consumed	Zero Rated	11 943	12 505	13 092
2024	WATER AND SANITATION ADMIN	Operational Cost	Daily Allowance	4 160	4 356	4 560
2024	WATER AND SANITATION ADMIN	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	WATER AND SANITATION ADMIN	Operational Cost	Own Transport	26 936	28 202	29 527
2024	WATER AND SANITATION ADMIN	Operational Cost	Seminars Conferences Workshops and	1 481 668	1 551 306	1 624 218
2024	WATER AND SANITATION ADMIN	Operational Cost	Skills Development Fund Levy	84 722	88 704	92 873
2024	WATER AND SANITATION ADMIN	Operational Cost	Toll Gate Fees	4 160	4 356	4 560
2024	WATER AND SANITATION ADMIN	Operational Cost	Travel Agency and Visa's	143 274	150 008	157 058
2024	WATER AND SANITATION ADMIN	Operational Cost	Uniform and Protective Clothing	1 561 451	1 634 839	1 711 677
2024	RETICULATION DISTRIBUTIION & MAITENANCE WATER DEMAND & CONSERV	Impairment Loss	Water	30 979 435	32 435 469	33 959 936
2024	RETICULATION DISTRIBUTIION & MAITENANCE WATER DEMAND & CONSERV	Inventory Consumed	Water	253 731 616	265 657 002	278 142 881
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Connection/Dis-connection	-	-	3 214 813
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Laboratory Services	14 757 239	15 450 829	16 177 018
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Laboratory Services	11 325 912	11 858 230	12 415 567
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Maintenance of Equipment	28 272 863	29 528 887	30 839 577
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Maintenance of Equipment	-	-	4 286 418
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Contracted Services	Personnel and Labour	231 712	242 602	254 005
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Inventory Consumed	Materials and Supplies	12 619 054	13 209 150	13 826 830
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Inventory Consumed	Materials and Supplies	349 880	366 325	383 542
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Inventory Consumed	Materials and Supplies	10 070 437	10 540 747	11 033 012
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Inventory Consumed	Standard Rated	34 382	35 998	37 690
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Inventory Consumed	Zero Rated	11 943	12 505	13 092
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Daily Allowance	4 160	4 356	4 560
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Own Transport	9 048	9 473	9 918
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Skills Development Fund Levy	17 603	18 430	19 296
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Skills Development Fund Levy	283 202	296 512	310 449
2024	RETICULATION DISTRIBUTIION AND MAITENANCE WATER DEMAND AND CO	Operational Cost	Toll Gate Fees	4 160	4 356	4 560

Figure 1: Reticulation, Distribution and Maintenance Budget.

5.2. Operations, Water and Wastewater Quality Management and Laboratory Services

				30 902 379	32 335 294	33 834 377
Bud Year ORIG	SBU	EXPENDITURE CATEGOR	DESCRIPTION	Budget Year 2023/24	Budget Year +1 2024/25	Budget Year +2 2025/26
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Hygiene Services	672 320	703 919	737 003
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Laboratory Services	2 018 081	2 112 931	2 212 239
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Maintenance of Equipment	398 097	416 808	436 397
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Sewerage Services	10 158 185	10 616 120	11 094 407
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Sewerage Services	321 750	336 872	352 705
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Contracted Services	Sewerage Services	2 276 408	2 383 399	2 495 419
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Impairment Loss	Waste Water Management	13 008 501	13 619 901	14 260 036
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Inventory Consumed	Materials and Supplies	6 032	6 315	6 612
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Inventory Consumed	Standard Rated	34 382	35 998	37 690
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Inventory Consumed	Zero Rated	11 943	12 505	13 092
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Daily Allowance	4 160	4 356	4 560
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Own Transport	10 608	11 106	11 628
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Skills Development Fund Levy	306 647	321 059	336 149
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Toll Gate Fees	4 160	4 356	4 560
2024	OPERATIONS WATER AND WASTE WATER QUALITY MANAGEMENT AND LAB	Operational Cost	Uniform and Protective Clothing	871 557	912 520	955 409
2024	QUALITY MONITORING SERVICES	Contracted Services	Maintenance of Equipment	437 563	458 128	479 660
2024	QUALITY MONITORING SERVICES	Inventory Consumed	Standard Rated	34 382	35 998	37 690
2024	QUALITY MONITORING SERVICES	Inventory Consumed	Zero Rated	11 943	12 505	13 092
2024	QUALITY MONITORING SERVICES	Operational Cost	Daily Allowance	4 160	4 356	4 560
2024	QUALITY MONITORING SERVICES	Operational Cost	Incidental Cost	4 160	4 356	4 560
2024	QUALITY MONITORING SERVICES	Operational Cost	Municipal Services	101 088	105 839	110 814
2024	QUALITY MONITORING SERVICES	Operational Cost	Own Transport	4 160	4 356	4 560
2024	QUALITY MONITORING SERVICES	Operational Cost	Skills Development Fund Levy	193 772	202 879	212 415
2024	QUALITY MONITORING SERVICES	Operational Cost	Toll Gate Fees	4 160	4 356	4 560

Figure 2: Operations, Water and Wastewater Quality Management and Laboratory Services.

SECTION 6

6. HEALTH AND SAFETY

The health and safety of our employees and the public are paramount in all maintenance activities related to water and sewer infrastructure. This section outlines the measures and protocols in place to ensure a safe working environment and prevent accidents or injuries during maintenance operations.

Health and Safety Objectives:

- Provide adequate training to all staff involved in maintenance activities on health and safety protocols.
- Ensure compliance with relevant health and safety regulations and standards.
- Conduct regular risk assessments and implement control measures to mitigate any potential hazards.
- Promote a safety culture within the organization and encourage reporting of unsafe conditions or practices.

Health and Safety Procedures:

- Conduct regular safety briefings and toolbox talks to communicate safety protocols and procedures.
- Provide personal protective equipment (PPE) to all employees and ensure its proper use.
- Develop and communicate emergency procedures for incidents such as spills, leaks, or injuries.
- Implement measures to control exposure to hazardous substances and maintain proper ventilation in work areas.
- Establish protocols for working in confined spaces or near high-risk areas such as manholes or pump stations.
- Ensure proper training and certification for employees working on specialized equipment or in high-risk environments.

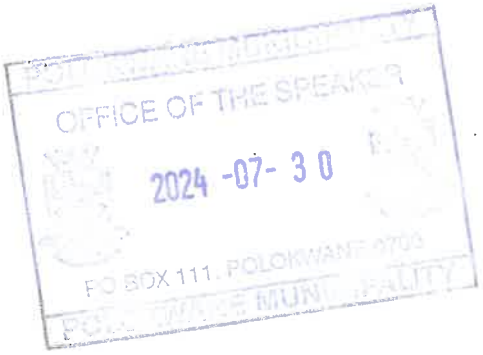
Health and Safety Recordkeeping:

- Maintain records of all training sessions related to health and safety protocols.
- Document any incidents, near misses, or accidents that occur during maintenance activities.

Conduct regular audits and inspections of work sites to ensure compliance with health and safety regulations

7. CONCLUSSION

The assets maintenance plan will require adequate budgeting as well as sufficient and skilled personnel for the directorate to perform all the necessary maintenance as and when required.



POLOKWANE

LOCAL MUNICIPALITY

CITY OF Polokwane

NATURALLY PROGRESSIVE

WATER METER CONNECTION

PROCEDURE MANUAL

2023/24

#DRAFT

Table of Contents

1. RESPONSIBILITY

Directorate: WATER AND SANITATION

Contact Numbers:

- **Municipal Call Centre:** 015 290 2000 / 015 023 5000
- **Dedicated Water and Sanitation Helpline:** 015 290 2376
- **WhatsApp:** 068 290 8736

Postal Address:

- P.O. BOX 111 Polokwane, 0700
- Civic Center, Cnr Landros Mare & Bodenstein Streets
- Polokwane, 0699, South Africa

2. INTRODUCTION

The following is a water meters and sewer connections installation guide for the purpose of assisting the installer and the end user in the correct installation of a water meters and sewer connections.

If you're building a new home, office block or factory, extending, upgrading or moving into existing premises, you'll need to know how to apply for water connections. If you have bought or moved into an existing property, the account must be transferred to your name.

3. WATER METERS

The regulations stipulate that water to any consumer must be measured by means of a water-volume-measuring device, and that all water be supplied in terms of an agreement between the local authority and the consumer. Metering water districts within water distribution schemes is also a requirement. Those involved in water supply to communities should take note of these regulations.

- A **water meter** is a device intended for measuring the volume of portable water in one direction only.
- There are several types of water meters in common use. The choice depends on the flow measurement method, the type of end user, the required flow rates, and accuracy requirements.

Guidelines for metering can be found in the catalogues of meter suppliers. It is important to note the following requirements:

- All mechanical meters must comply with SABS specifications;
- All meters must be installed according to the manufacturer's instructions;
- Meters must be correctly sized;
- Meters are to be tested (and replaced if necessary) at regular intervals;
- Unmetered connections should not be allowed;
- Regular inspection of actual flow is required to confirm meter sizes, where larger meters are installed;
- Meter installations should at all times correspond with financial records;
- Prepaid water meters should be considered if the community is in favour of this option;
- Meters must comply with the Trade Metrology Act (Act 77 of 1973); and
- Consumer installations must comply with SABS 0252: Water supply and Drainage for Buildings.

3.1. What should be metered?

- Any private water service and public sector that connects to the Municipal water supply must have a meter. This includes fire hose reels and fire hydrants.

3.2. Who supplies the meter?

- The Municipality Supplies the water meter to the customer provided the customer has applied and payed the required application fee.

- Application fees shall be stipulated in the approved tariffs of the Municipality.

3.3. Who installs the meter?

- Water meters are installed by the Municipality or a licensed plumber contracted by the Municipality.

3.4. When do you apply for a meter?

- You should apply for a meter two weeks before you need water on-site. This is because you must have a meter on the site before you start building.

3.5. How do you apply for a meter?

The following steps should be followed when applying for a new water connection:

- New water connections are applied through the building section.
- Building Plan of the house or the development must be approved in order to get a water connection.

3.6. When do we install the meter?

- We'll install a drinking water meter within five to ten business days.

3.7. Where do we install the meter?

We need to access the meter to read it regularly so it's important that we install it in the right spot:

- The inlet riser should be between 300 mm and 1,000 mm inside or outside the front property boundary.
- The inlet riser should be between 300 mm and 600 mm from the left or right property boundary.

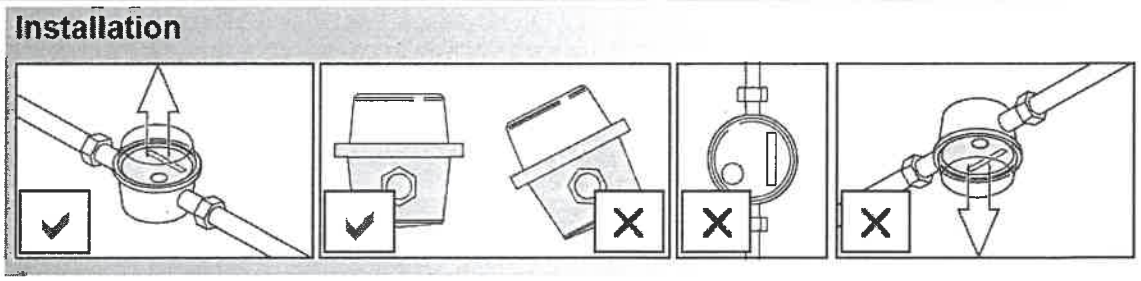
- The inlet riser and outlet riser are 300 mm from the ground (meters up to 50 mm light duty)
- The inlet riser and outlet riser are parallel to the closest side boundary.
- When installing meters close together, allow 300 mm between them.

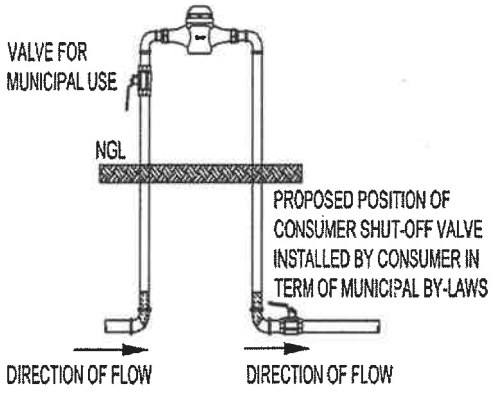
A meter must not be installed:

- more than 1.5 metres above the ground
- In an area we cannot regularly access such as inside a house or unit, in a ceiling space or under a kitchen sink.

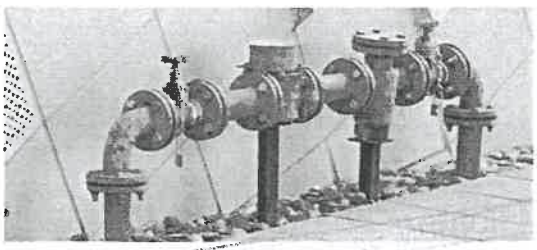
3.8. How do we install the meter?

Typical meter installations





Domestic meter



Bulk meter

- The water meter should be installed according to the manufacturer's instructions and South African National Standards (SANS) 1632.