



## UMHLATHUZE INTEGRATED WASTE MANAGEMENT PLAN 5<sup>th</sup> REVIEW 2022/23 - FINAL DRAFT



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## ACRONYMS

<b>AP</b>	Action Plan
<b>APIG</b>	Action Plan Implementation Group
<b>CBD</b>	Central Business District
<b>CEC</b>	Committee for Environmental Co-ordination
<b>CONNEPP</b>	Consultative National Environmental Policy Process
<b>DEDTEA</b>	Department of Economic Development, Tourism and Environmental Affairs
<b>DAEARD</b>	Department of Agriculture and Rural Development
<b>DFA</b>	Development Facilitation Act 67 of 1995
<b>DME</b>	Department of Minerals and Energy
<b>DTL</b>	Department Task Leader
<b>DWAF</b>	Department of Water Affairs and Forestry
<b>ECA</b>	Environment Conservation Act, Act No. 73 of 1989
<b>IDP</b>	Integrated Development Plan
<b>IP&amp;WM</b>	Integrated Pollution and Waste Management
<b>IWM</b>	Integrated Waste Management
<b>IWMP</b>	Integrated Waste Management Plan
<b>LDO</b>	Land Development Objectives
<b>LUPO</b>	Land Use Planning Ordinance
<b>LGTA</b>	Local Government Transition Act 209 of 1993
<b>LFA</b>	Logical Framework Analysis

<b>MRF</b>	Material Recovery Facilities
<b>NEAF</b>	National Environmental Advisory Framework
<b>NEMA</b>	National Environmental Management Act, Act No. 107 of 1998
<b>NEMWA</b>	National Environmental Management Waste Act, Act No. 59 of 2008
<b>NWMS</b>	National Waste Management Strategy
<b>OLGA</b>	Organised Local Government Act 52 of 1997
<b>PMG</b>	Project Management Group
<b>PPA</b>	Physical Planning Act 125 of 1991
<b>PSC</b>	Project Steering Committee
<b>SLA</b>	Service Level Agreement

## EXECUTIVE SUMMARY

The Constitution of South Africa, 1996 (Act 108 of 1996) specifically states that “*Everyone has the right to an environment that is not harmful to their health or well-being and an environment that is protected, for the benefit of present and future generations*” under the Bill of Rights (Section 24 of Chapter 2). In order to give effect to this right, the mother of all environmental acts - National Environment Management Act, (Act 107 of 1998) was promulgated and commenced from January 1999. The National Environmental Management Waste Act: (Act No. 59 of 2008), on the other hand, was specifically developed to regulate waste management within the country and provides an integrated legislative framework that addresses all the steps in the waste management hierarchy.

In terms of the Constitution, the responsibility for waste management functions is to be devolved to the lowest level of government. The Constitution therefore assigns legislative competence to local municipalities in matters of *cleansing and refuse removal, refuse dumps and solid waste disposal*. While, in terms of the Waste Act all spheres of government are required to develop an Integrated Waste Management Plan (IWMP). As a result of both requirements, it is a constitutional role for the City of uMhlathuze to be responsible for waste management activities within its jurisdiction and a legal obligation for the municipality to have an IWMP.

The IWMP is a legal requirement and a planning tool for a municipality for all waste activities. It also to be integrated into the Integrated Development Plan (IDP) of the municipality, as per Chapter 5 of the Municipal Systems Act 32 of 2000. The City of uMhlathuze IWMP, which is reviewed annually with the IDP, its main aim is to determine the detail and functioning of the existing waste management service; identify and plan for future waste management needs; optimize the costs associated with waste management; and implement mechanisms for the plan. Furthermore, due to the City being a rapidly developing municipality socially, economically and industrially, there is a need to address the following in the IWMP:

- Increase waste generation due to new developments;
- Improvement of waste collection systems;
- Introduction of an effective waste minimization (recycling) programme;
- Increase service delivery capacity;
- Curb illegal dumping by increasing law enforcement and fines;
- Contribute in circular and green economy through waste recycling;
- Employ alternative treatments of waste – such as composting; and
- Align all the waste activities and programmes with education and awareness.





## SECTION 1

### 1. INTRODUCTION

#### 1.1. BACKGROUND

As a requirement of Chapter 3, section 11 of the National Environment Waste Act (NEMWA) and the Integrated Development Plan (IDP) process all Municipalities, have an obligation to compile an Integrated Waste Management Plan (IWMP).

The reviewing of the 2005 IWMP was done in line with Section 12 of NEMWA and as well as the Guidelines for the Development of IWMP for Local Governments (DAEA, 2003).

**Section 1** includes the Introduction. This section includes the flow process of the document.

**Section 2** includes the status quo assessment approach. This section includes literature review, in depth interviews, interviews for few selected households in different type of settlements, observations and sanity checks: The following areas were interrogated:

Literature Review of relevant legislation and policies to Waste Management

- Analysis of socioeconomic and demographic data of uMhlathuze Local Municipality
- Waste quantities and characteristics
- Waste management systems
  - ✓ Waste management organisational structure
  - ✓ Waste management infrastructure
  - ✓ The status of landfills, transfer stations and material recovery facilities
  - ✓ Street cleaning
  - ✓ Illegal dumping

**Section 3** includes population projections and Waste Management forecasts

- Population projections
- Economic growth
- Waste generated in 2021
- Waste generation forecast estimates

**Section 4** includes Gaps and Needs Analysis and Alternative Recommendations

- Legislation
- By laws
- Waste management systems
- Waste collection services
- Illegal dumping
- Management of landfills
- Waste Management systems
- Rural area

- Informal settlements
- Industrial and mining waste
- Building rubbles
- Garden waste
- Fleet

**Section 5** includes Goals and Objectives of:

- Development Disposal Infrastructure
- Waste Collection Infrastructure
- Institutional Capacity and Human Resource
- Financial Resources
- Management of illegal activities
- Waste minimisation

**Section 6** includes:

- Implementation Plan
- Cost Estimates
- Monitoring Strategy
- Conclusion

The City of uMhlathuze Municipality has identified five focus points that the IWMP to focus on and these are:

- Illegal Dumping
- Human Resource of Waste Management Section
- Waste Minimization (including Recycling and Climate Change)
- Waste Management Infrastructure
- Waste Education

## **SECTION 2**

### **2. STATUS QUO OF WASTE MANAGEMENT**

#### **2.1. BASIC PRINCIPLES FOR WASTE MANAGEMENT**

The main purpose of an IWMP is to integrate the management of general waste within the municipality in order to:

- Identify and plan for future waste management needs
- Minimise the negative social and environmental impacts related to waste thereby improving the quality of life for the communities
- Minimize costs through effective planning, efficient management of infrastructure, human resource, machinery and equipment.
- Address issues of climate change.

The long-term vision of City of uMhlathuze Municipality is “The Port City of uMhlathuze offering a better quality of life for all its citizens through sustainable development and inclusive economic growth” (IDP 2020/2021).

The Mission statement that underpins the above vision: (IDP 2020/2021)

- Job creation and inclusive economic growth through accelerated economic development and transformation;
- Enhancing industry based skills development and strategic support to education priority programmes;
- Community based initiatives to improve quality of citizen’s health and well-being;
- Creating safer city through integrated and community based public safety;
- Planned and accelerated rural development interventions;
- Promotion and maintenance of spatial equity and transformation;
- Optimal management of natural resources and commitment to sustainable environmental management;
- Use of Information, Communication and Technology Systems (ICT) to improve productivity and efficiencies in line with Smart City principles;
- Good governance, capable and developmental municipality; and
- Collaborate and partner with private sector, public sector and NGOs in the environmental programmes.

## 2.2. LEGISLATIVE AND REGULATORY FRAMEWORK

Waste management in South Africa is currently governed by means of the following pieces of legislation; including:

### 2.2.1. THE NATIONAL WASTE MANAGEMENT STRATEGY 2011

The National Department of Environmental Affairs gazetted the National Environment Management Strategy (NWMS) in 2012 with an aim to give effect to the objects of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). Municipalities are required to align their IWMPs with the NWMS goal and targets. The main goals and objectives of the current NWMS are detailed below.

Goal	Objectives
1. Securing ecologically sustainable development while promoting justifiable economic and social development	<ul style="list-style-type: none"> <li>• To ensure the protection of the environment through effective waste management measures;</li> <li>• To protect the health and well-being of people by providing an affordable waste collection service;</li> <li>• Grow the contribution of the waste sector to GDP;</li> <li>• Increase the number of jobs within waste services, recycling and recovery sectors;</li> <li>• Promote SMMEs in waste sector</li> </ul>

2. Avoiding and minimising the generation of waste	<ul style="list-style-type: none"> <li>• Ensure the design and manufacture of products that avoid or minimize waste generation;</li> <li>• Discourage waste generation through cost effective and volume based tariffs;</li> <li>• Increase consumer awareness of waste minimisation issues</li> </ul>
3. Reducing, re-using, recycling and recovering waste	<ul style="list-style-type: none"> <li>• Increase re-use and recycling rates of products;</li> <li>• Reduce the percentage (%) of recyclable material to landfill;</li> <li>• Ensure separation at source in all metropolitan and local municipalities;</li> <li>• Encourage the establishments of Material Recovery Facilities (MRFs);</li> <li>• Encourage waste to energy options;</li> <li>• Support the diversion of high calorific waste from landfill to recovery options</li> </ul>
4. Promoting and ensuring the effective delivery of waste services	<ul style="list-style-type: none"> <li>• Facilitate the provision of at least a basic level of waste service to all;</li> <li>• Ensure an efficient and effective solid waste management ;</li> <li>• Implement free basic removal policy for indigent households;</li> <li>• Promote the regionalization of waste management services</li> </ul>
5. Treating and safely disposing of waste as a last resort	<ul style="list-style-type: none"> <li>• Stabilize quantity of waste disposed to landfill then reduce this volume;</li> <li>• Improve landfill management to comply with the legislation;</li> <li>• Increase thermal treatment and conservation of waste energy;</li> <li>• Ensure the diversion of certain waste tyres from landfill</li> </ul>
6. Remediating land where contamination presents a significant risk of harm to health or the environment	<ul style="list-style-type: none"> <li>• Quantify the extent of contaminated land;</li> <li>• Implement contaminated land measures in the Waste Act;</li> <li>• Remediate priority areas of contaminated land;</li> <li>• Clarify extent of state liability for contaminated land</li> </ul>

**In addition to the above, how the overall goals and objectives are met and also being dealt with under some process, goals and objectives will include the following:**

Goals	Objectives
7. Achieving integrated waste management planning	<ul style="list-style-type: none"> <li>• Reliable information of waste flows and an accurate waste management national waste balance;</li> <li>• Establish and implement an effective system of performance based IWMPs at all levels of government;</li> <li>• IWMPs approved for key industrial sectors</li> </ul>

8. Sound budgeting and financial management for waste services	<ul style="list-style-type: none"> <li>• Sound financial planning for waste services;</li> <li>• Full cost accounting for waste services; Cost reflective and volumetric tariffs implemented;</li> <li>• Waste services sustainably financed</li> </ul>
9. Adequate staffing and capacity for waste management	<ul style="list-style-type: none"> <li>• WMOs appointed at all levels of government;</li> <li>• Additional technical capacity developed to deal with norms and standards,</li> <li>• Industry regulation and remediation;</li> <li>• EMI capacity expanded to deal with Waste Act;</li> <li>• Private sector capacity mobilized to support waste service delivery and community based collection models</li> </ul>
10. Effective compliance and enforcement of waste regulations	<ul style="list-style-type: none"> <li>• Conduct systematic monitoring of compliance with regulations and permit conditions;</li> <li>• Create a culture of compliance with Waste Act regulations;</li> <li>• Establishment of a hotline to report non-compliance;</li> <li>• Successful prosecutions to waste offenders</li> </ul>
11. Effective monitoring and reporting on performance with waste functions	<ul style="list-style-type: none"> <li>• Implement systematic monitoring of key performance indicators by each sphere of government;</li> <li>• Reporting on key performance indicators in line with the Waste Act;</li> <li>• Conduct regular evaluation of performance with waste functions and IWMPs</li> </ul>
12. Ensure that people are aware of the impact of waste on their health, well-being and the environment	<ul style="list-style-type: none"> <li>• Develop national and local awareness campaigns on the social importance of waste management;</li> <li>• Promote waste minimization and recycling through education system;</li> <li>• Establish an equivalent to the "Blue Drop" award for waste management</li> </ul>

#### 2.2.1.1. THE NATIONAL WASTE MANAGEMENT STRATEGY 2020

National Waste Management Strategy 2020 is a revision and update of the NWMS 2011 strategy, which provides government policy and strategic interventions for the waste sector. NWMS 2020 broadly focuses on preventing waste and diverting waste from landfill by leveraging the concept of circular economy to drive sustainable and inclusive economic growth. In waste management, circular economy is an approach to minimize the environmental impact of economic activity by reusing and recycling processed waste material.

The strategy is aligned and responsive to the Sustainable Development Goals (SDGs) and to the National Development Plan: Vision 2030 (NDP) which is South Africa's specific response to SDGs into overall socio-economic development plans.

**Table 2.2.1.1(a) Alignment of the NWMS 2020 with the SDGs**

<b>SUSTAINABLE DEVELOPMENT GOALS</b>	<b>CONTRIBUTION OF THE NWMS 2020</b>
SDG 1: No Poverty	Through waste management science and technologies that advance sustainable development
SDG 2: Zero Hunger	Through eradicating food waste
SDG 3: Good Health and Well-Being	Through minimising waste related environmental factors that contribute to ill-health and preventable diseases
SDG 6: Clean Water and Sanitation	Through: <ul style="list-style-type: none"> <li>Minimising the discharge of wastewater from human activities into rivers/oceans/dams; and</li> <li>Supporting sustainable management of water to better manage food production, energy and climate change</li> </ul>
SDG 7: Affordable and Clean Energy	Through supporting clean energy infrastructure and technologies that reduce greenhouse gases which cause climate change, harms peoples' health and well-being and damages the environment
SDG 8: Decent Work and Economic Growth	Through: <ul style="list-style-type: none"> <li>Entrenching waste management as a key "circular economy" component towards fully sustainable development;</li> <li>Creating and promoting decent work opportunities in the waste sector and its downstream opportunities e.g. waste beneficiation; and</li> <li>Promoting the waste management sector as a key contributor to overall economic growth and development</li> </ul>
SDG 9: Industry, Innovation and Infrastructure	Through promoting and supporting sustainable industrialisation that is premised on efficient use of natural resources to improve peoples' standard of living without damaging the environment
SDG 11: Sustainable Cities and Communities	Through supporting the development of cities and communities in ways that do not harm the environment and that reduces carbon and greenhouse gas emissions
SDG 12: Responsible Consumption and Production	Through: <ul style="list-style-type: none"> <li>Ensuring sustainable production and consumption patterns;</li> <li>Implementing initiatives that reduce waste, promote recycling, re-use; and</li> <li>Implementing public awareness initiatives</li> </ul>
SDG 13: Climate Action	Through implementing actions that will reduce greenhouse gas emissions, build climate resilience, promote renewable energy

In line with the outcome based planning approach of government, the NWMS 2020 is grounded on three (3) outcomes that will allow South Africa to have:

- Zero waste in landfills
- Cleaner communities
- Well managed and financially stable waste services
- A culture of zero tolerance of pollution, litter and illegal dumping.

The outcomes will be achieved through three (3) supporting pillars, detailed in the table below. These strategic pillars, their outcomes, interventions and actions build on the original NWMS 2011 eight (8) strategic goals; which are the City of uMhlathuze IWMP strategic goals. This therefore means the strategic goals are still applicable yet summarized into three pillars with new targets or outcomes.

**Table 2.2.1.1(b): Alignment of the NWMS 2020 with the National Priorities and National Development Plan: 2030 Outcome**

STRATEGIC PILLAR	OUTCOME	KEY INTERVENTIONS
Waste Minimisation	40% of waste from diverted from landfill within 5 years; 55% within 10 years; and at least 70% within 15 years leading to Zero-Waste going to landfill.	<ul style="list-style-type: none"> <li>• Prevent waste generation through cleaner production, industrial symbiosis and extended producer responsibility;</li> <li>• Prevent Food Waste;</li> <li>• Increase re-use, recycling and recovery rates;</li> <li>• Divert organic waste from landfill through composting and the recovery of energy;</li> <li>• Divert construction and demolition waste from landfill through beneficiation; and</li> <li>• Increase technical capacity and innovation for beneficiation of waste.</li> </ul>
Effective and Sustainable Services	All South Africans live in clean communities with waste services that are well managed and financially sustainable.	<ul style="list-style-type: none"> <li>• Separate waste at source;</li> <li>• Safe and environmentally sustainable disposal of hazardous household waste;</li> <li>• Cities Support Programme Implementation; and</li> <li>• Effective integrated waste management planning.</li> </ul>
Compliance, Enforcement and Awareness	Mainstreaming of waste awareness and a culture of compliance resulting in zero tolerance of pollution, litter and illegal dumping.	<ul style="list-style-type: none"> <li>• Reduce pollution, littering and illegal dumping;</li> <li>• Enhance capacity to monitor compliance and enforce the Waste Act and International Agreements; and</li> <li>• Ensure municipal landfill sites and waste management facilities comply with licensing requirements.</li> </ul>

NATIONAL PRIORITY	NDP OUTCOME	NWMS 2020 RESPONSE
<ul style="list-style-type: none"> <li>Economic Transformation and job creation</li> <li>Education, Skills and Health</li> <li>A better Africa and World</li> </ul>	<ul style="list-style-type: none"> <li>Green House Gas emission reduction</li> <li>Just Transition to a low carbon economy</li> <li>Municipal preparedness to deal with climate change and</li> <li>Enhanced national implementation of the Sustainable Development Goals (SDG) Agenda 2030 and Agenda 2063</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of the Chemical and Waste Economy Phakisa</li> <li>Just transition to a low carbon and circular economy</li> <li>Environmental Management Education and Awareness campaigns in schools including waste management</li> <li>Advancing the SDGs in ten areas of waste management</li> <li>Supporting the implementation of waste management programmes of local government</li> </ul>

Table 2.2.1.1(c): National Priorities, NDP Outcome and NWMS 2020 Response

**2.2.2. THE SOUTH AFRICAN CONSTITUTION, 1996 (ACT 108 OF 1996)**

The Constitution of South Africa, 1996 provides the foundation for environmental regulation and policy in South Africa. The right to environmental protection and to live in an environment that is not harmful to health or well-being is set out in the Bill of Rights (Section 24 of Chapter 2). This fundamental right underpins environmental policy and law, in particular the framework environmental legislation established by the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

**2.2.3. THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, (ACT 107 OF 1998) (NEMA)**

NEMA provides for co-operative governance by establishing principles and procedures for decision-makers on matters affecting the environment.

An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management. Some of the principles in the Act are: Accountability; Affordability; Cradle to the Grave Management; Equity; Integration; Open Information; Polluter Pays; Subsidiary; Waste Avoidance and Minimisation; Co-operative Governance; Sustainable Development; and Environmental Protection and Justice.

**Chapter 2** makes provision for the establishment of the Committee for Environmental Co-ordination (CEC). The objective of the committee is to promote the integration and co-ordination of environmental functions by the relevant organs of state and in particular to promote the achievement of the purpose and objectives of environmental implementation plans and environmental management plans.



**Chapter 3** requires that National government and Provincial departments that have waste management responsibilities develop Environmental Implementation Plans (EIPs) every four years and an environmental management plan (EMP). Local government is obliged to exercise its responsibilities in accordance with these plans and to report annually within four months from the end of its financial year on implementation of the environmental management plan or environmental implementation plan. Provincial government must ensure that municipalities adhere to the relevant environmental implementation and management plans within its province, as well as the principles in the preparation of any policy, programme or plan including the establishment of Integrated Development Plans (IDPs) and Land Development Objectives (LDOs).

**Chapter 7** Imposes a duty of care in respect of pollution and environmental degradation. Any person who has caused significant pollution or degradation of the environment must take steps to minimise the pollution. Where an incident occurs that is detrimental to the environment, the responsible person for the incident must within 14 days of the incident report to the Director General, provincial head of department and municipality. The relevant authority may specify measures to address the problem and remediate the area within 7 days. The Acts also attach consequences for breaching the duty of care, namely that government authorities are empowered to issue directions are not complied with.

**Chapter 8** Provides that the Minister and every MEC and municipality may enter into an environmental management co-operation agreement with any person or community for promoting compliance with the principles laid down in NEMA. Environmental Co-operation Agreements may contain an undertaking by the person or the community concerned to improve the standards laid down by law for the protection of the environment and a set of measurable targets and a timeframe for fulfilling the undertaking.

**Chapter 9** Allows the Minister to make laws and by-laws aimed at establishing measures for the management of environmental impacts of any development within the jurisdiction of the municipality, which may be adopted by the municipality as by-laws. Any municipality may request the Director General to assist it with its preparation of by-laws on matters affecting the environment and the Director General may not unreasonably refuse such a request. The Director General may institute programmes to assist municipalities with the preparation of by-laws for the purposes of implementing this Act.

#### **2.2.4. NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO. 59 OF 2008)**

The National Environmental Management: Waste Act (Act No. 59 of 2008) is an integrated legislative framework developed under NEMA as a specific environmental management act, which deals with waste in South Africa.

The Waste Act was published as No. 278 in Government Gazette No. 32000, on 10 March 2009. The Act was signed by the President on 6 March 2009 and published on 10 March 2009. On 1 July 2009, the Waste Act came into operation. The Waste Act repealed Section 20 of the Environment Conservation Act, 1989 (Act 73 of 1989) and introduces new provisions regarding the licensing of waste management activities. Schedule 1 of the Waste Act lists all activities, in terms of Section 19, that require a waste management licence. These activities have, or are likely to have, a detrimental effect on the environment and are differentiated into three categories:

- “Category A” waste activities require a basic EIA;
- “Category B” requires a Scoping and Full EIA process prior to obtaining a waste management licence; and
- “Category C” activities require compliance with specific norms and standards.

The Waste Act also entrenches best practices in waste management into law, replacing the out dated and unsustainable “end of pipe” approach with a new, and more environmentally responsible and sustainable approach.

The Act deals with minimising the consumption of natural resources , waste generation, recycling, waste disposal, prevention of pollution, promotion of waste services, remedying land degradation, and achieving integrated waste management reporting and planning.

#### **2.2.5. MUNICIPAL DEMARCATION ACT 27 OF 1998**

The Municipal Demarcation Act 27 of 1998 provides criteria and procedures for the determination of municipal boundaries by an independent authority. In terms of the Act, the Municipal Demarcation Board is established to determine municipal boundaries.

Section 24 provides that when demarcating a municipal boundary, the board must aim to establish an area that would enable the municipality to fulfil its Constitutional obligations, including the provision of services in an equitable and sustainable manner, the promotion of social and economic development and the promotion of a safe and a healthy environment. The tax base must also be as inclusive as possible of users of municipal services in the municipality.

#### **2.2.6. NATIONAL DOMESTIC WASTE COLLECTION STANDARDS, JANUARY 2011**

The purpose of the document is to redress past imbalances in the provision of waste collection services, it is imperative that acceptable, affordable and suitable waste collection services be rendered to all South Africans. The provision of waste collection services improves the quality of life of the entire community and ensures a clean and more acceptable place to live and work in. The lack of or poor quality waste collection services can however result in a number of environmental and human health problems.

The Waste Act stipulates that standards are required to “give effect to an environment that is not harmful to health and well-being,” and that this right has to be applied “uniformly throughout the Republic”. It is recognized that South Africa is a developing country; the purpose of the setting standards is to ensure service to all while complying with health and safety regulations without unnecessarily changing current creative collection processes as long as they function well and deliver a service of acceptable standards to all households. These National Domestic Waste Collection Standards are therefore applicable to all domestic waste collection services throughout the country.

#### **2.2.7. WASTE CLASSIFICATION AND MANAGEMENT SYSTEM**

Chapter 2, Part 2 of the Waste Act requires that national norms and standards for the classification of waste should be developed. The waste classification and management regulations provide a waste classification system for all wastes managed under the Waste Act.

Waste streams that are clearly identifiable will be pre-classified. Examples of pre-classified wastes include domestic waste, uncontaminated building and demolition waste, business waste collected by municipalities, tyres, garden waste, post-consumer packaging, asbestos wastes and health care risk waste.

The waste classification and management regulations set timeframes in which waste must be classified and managed, including wastes stored in lagoons. The regulations prohibit the mixing of waste prior to classification and require that co-disposal of domestic waste and industrial waste be phased out. Timeframes are also set for the phase out of macro encapsulation of waste.

Section 19(3) (a) of the Waste Act specifies that the Minister may, by notice in the gazette, indicate:

- a) Whether a waste management licence is required for listed waste management activities; and
- b) The requirements or standards that will apply to listed activities for which licensing are not required.

Apart from the waste manifest, the WCMS requires that a safety data sheet 43 accompany all hazardous wastes, including contaminated general waste. Containers that store hazardous wastes must be labelled and storage facilities must keep detailed records. This system will improve the management and quality of data available on hazardous wastes and ensure reporting to SAWIS.

#### **2.2.8. NATIONAL NORMS AND STANDARDS**

The Waste Act allows for an integrated system of Norms and Standards across the three spheres of government. The drafting of certain norms and standards at a national level are obligatory, while others are at the discretion of the Department of Environmental Affairs. In addition, provinces may set norms and standards that are not in conflict with national norms and standards. Municipalities may also set local waste service standards. The system of norms and standards will be developed in a sequenced manner, with the priority to develop obligatory standards, which include:

7(1) (a) Classification of Waste;

7(1) (b) Planning for and Provision of waste management services;

7(1) (c) Storage, Treatment and Disposal of waste, including the planning and operation of waste treatment and waste disposal facilities.

In relation to waste services (Section 7(1) (b), the National Domestic Waste Collection Standard addresses the collection of waste and includes requirements for separating waste at source, measures to promote recycling, and prescriptions for collection frequency.

In terms of discretionary national norms and standards, the priority is to develop technical standards for waste management activities that do not require a licence. These standards will promote re-use, recycling and recovery of wastes.

Other discretionary norms and standards will be identified and developed using the following criteria:

To contribute on achieving the waste management hierarchy, with particular focus on the re-use, recycling and recovery of wastes.

To prevent a proliferation of norms and standards, provisions for provincial and local government norms and standards will only be used where national provisions cannot effectively address provincial or local waste management issues. Instances where possible regional variation might be required will be identified and discussed in the appropriate inter-governmental forums.

### **2.2.9. NATIONAL POLICY FOR PROVISION OF BASIC REFUSE REMOVAL SERVICE TO INDIGENT HOUSEHOLDS**

The purpose of the National Policy for Provision of Basic Refuse Removal Service to Indigent Households, June 2011 is to ensure those poor (indigent) households have access to at least basic (essential) refuse removal services from the concerned municipality. Meeting this purpose requires aligning the National policy for Provision of Basic Refuse Removal Service to Indigent Households with already existing key relevant legislation i.e. Indigent Policies for different municipalities, financial management systems while being mindful of the need to ensure that there is uniformity when dealing with various cases of indigent households.

### **2.2.10. KZN WASTE MANAGEMENT POLICY (KZN-WMP) – FINAL VERSION 2003**

This policy represents the efforts of the province to take on its responsibility as previously prescribed in the ECA (Section 24, Act No. 73, 1998) to make regulations with respect to waste management.

The general objectives are;

- Registration of waste generators and handlers;
- Access to information;
- An equitable system of governance for generators and handlers with a view of eliminating illegal practices.

The policy states that this includes the management of waste on site and only where necessary, the transportation to suitable licensed landfill sites. With regards to hazardous and Health Care Risk Waste, the policy states that it is important to identify the need for hazardous and waste disposal sites and address issues like sighting and management “if the need exists”.

### **2.2.11. ORGANISED LOCAL GOVERNMENT ACT**

The Organised local Government Act 52 of 1997 provides for the recognition of national and provincial organisations representing the different categories of municipalities which determines various procedures concerning local government, including procedures by which local government may consult with national and provincial government.

### **2.2.12. MUNICIPAL STRUCTURES ACT**

The main objective of the Municipal Structures Act 117 of 1998 is to provide for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality and to provide for an appropriate division of functions and powers between categories of municipalities. It is one of a set of legislation that is aimed at the transformation of local government into a more financially sustainable and performance orientated sphere of government. The Act is aimed at creating the permanent structures mandated by the constitution that will replace the transitional structures created by the Local Government transition Act. Municipalities are categorised either as A, B or C depending on the level of development.

Chapter 65 sets out the functions and powers of the municipalities in accordance with the Constitution.

### **2.2.13. MUNICIPAL SYSTEMS ACT**

The Municipal Systems Act No 32 of 2000 describes the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of communities and ensure access to services that are affordable to all. Its focus is primarily on the internal systems and administration of the municipality.

The Act enables the process of decentralisation of functions through assigning powers of general competence to local Government. Municipal by-laws are regulated to achieve harmony with national and provincial legislation.

As service authorities, municipalities remain responsible for the effective delivery of services and must provide an appropriate policy and regulatory framework. This can be achieved through the most appropriate service provider, ranging from internal departmental delivery to corporation and joint ventures to private sector delivery options.

Performance management systems are to be developed to measure and evaluate performance in priority areas, which are to be reported annually to citizens and other spheres of government.

The process to be followed in planning, drafting and adopting the Integrated Development Plan is set out.

### **2.2.14. THE DEVELOPMENT FACILITATION ACT**

The Development Facilitation Act 67 of 1995 sets out a planning and land development system, which ensures that national, provincial and local government policies are implemented.

Section 28 describes the requirements for Land development Objectives, which must be developed by each local authority. One of the objectives of Land Development is to create a new system that encourages sustained utilisation of the environment, particularly with regard to the environmental encouragement of developments.

Municipalities are encouraged to cooperate in order to develop the capacity of each municipality to exercise its powers and duties and manage its affairs.

### **2.2.15. THE PHYSICAL PLANNING ACT**

The objective of The Physical Planning Act 125 of 1991 is to provide for the division of the country into regions and to promote regional development. Policy plans consist of broad guidelines for the future physical development of the area and restrictions are placed on the use of land in the area to which the plan relates. Local authorities are required to develop urban structure plans for their areas of jurisdiction.

### **2.2.16. THE MINIMUM REQUIREMENTS**

The minimum requirements series consists of three pertinent documents that regulate activities around the management of waste.

These include:

- ❖ Minimum Requirements for the Handling Classification and Disposal of Hazardous waste;
- ❖ Minimum Requirements for Waste Disposal by landfill;
- ❖ Minimum Requirements for monitoring Waste Management Facilities

The Minimum Requirements for Waste Disposal by Landfill guides the process of site selection, permitting, investigation, assessment and mitigation of impacts, landfill design, site preparation operation, monitoring, rehabilitation and closure. Upon establishing a preferred site in accordance with the above requirements, a “section 20” permit is normally issued. This responsibility has now been developed to the National Department of Environmental Affairs (DEA) from DWA.

The Minimum Requirements for Waste Disposal by Landfill represents the definitive guideline for the establishment of waste disposal sites under the Environmental Conservation Act. In terms of the permitting requirements for waste disposal the procedure is covered in great detail in the document. Particular attention must be paid to the permitting procedure, which must be followed to the letter to avoid falling short of any of the requirements.

Minimum requirements for the Handling Classification and Disposal of Hazardous Waste looks at the principles of good waste management. The document describes a system for the classification of various waste types, treatment for various wastes, the hazard rating for any residues and the prescribed disposal mechanisms.

#### **2.2.17. NATIONAL ENVIRONMENT MANAGEMENT: AIR QUALITY ACT**

The purpose of the National Environment Management: Air Quality Act 39 of 2004 is to reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development, to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific quality measures; and for matters incidental thereto.

Part 2 of Chapter 2 of the Act sets out national, provincial and local ambient air quality and emission standards, chapter 3 institutional and planning matters, chapter 4 air quality management measures (priority areas, Listing of activities resulting in atmospheric emissions, controlled emitters, controlled fuels and other emitters).

Chapter 5 describes the procedures to apply for licenses for listed activities, while chapter 7 describes the offences and penalties for non-adherence.

#### **2.2.18. MUNICIPAL SYSTEMS ACT: SERVICE DELIVERY**

A Municipality must give effect to the provisions of the Constitution and give priority to the basic need of the local community; promote the development of the local municipality; and ensure all members of the local community have access to at least a 50 minimum level of basic municipal services. Municipal services must be equitable and accessible. They must be provided in a manner that is conducive to economic development, efficient and effective use of available resources and the improvement of standards of quality over time. Furthermore, the municipal services must be financially and environmentally sustainable and also be regularly reviewed with a view to upgrading, extension and improvement.

The Municipal Systems Act (Act 32 of 2000) provides a broad requirement for service delivery (waste disposal) in local municipalities. In terms of section 75 (1) of the Act a municipality must

- Give priority to basic needs;
- Promote local community development;

- Provide a basic level of service for all community members;

These services must be:

- Equitable and accessible;
- Promote prudent economic and efficient use of municipal resources;
- Sustainability (financially and economically)
- Be subject to review and improvement.

Tariff policy regulated in section 74 of the above Act must apply:

- All people must be treated equally in the application of tariffs;
- The levy for the services must be in proportion to consumption of services;
- Poor households should at least have basic services (investigate subsidies);
- Tariffs must reflect the costs to provide the service ( capital, operating, maintenance, administration and interest);
- Tariffs must be financially sustainable;
- Local economic development can be promoted by setting special charges for industrial and commercial users;
- Any cross subsidies must be fully disclosed;
- Recycling and other principles of environmental management must be promoted for the efficient, effective, and economical use of municipal resources;
- Tariff policies may vary between different users provided these are not unfair or discriminatory.

#### **2.2.19. ATMOSPHERIC POLLUTION PREVENTION ACT 45 OF 1965**

The atmospheric Pollution Act of 1965 is not yet repealed and is added to the list of relevant legislation applicable to waste management. The authorisations issued in terms of this Act will be applicable until regulations have been promulgated in terms of the National Environment Management: Air Quality Act 39 of 2004.

Part 2 of the Acts sets out the procedure for the permitting of Scheduled Processes, which includes waste incineration processes. A registration certificate is a mandatory requirement and the Act prohibits any person from carrying on the Scheduled Process unless that person is a holder of the original certificate. A current registration certificate is granted after compliance with the conditions of a provisional registration certificate and the requirements of the Department of Environmental Affairs and Tourism to whom the power has been delegated. The current registration certificate also is issued subject to conditions. These include the condition that all appliances used for preventing or reducing to a minimum the escape into the atmosphere of noxious or offensive gases shall be properly operated and maintained and that the best practice means for achieving this are implemented.

Part 3 of the Atmospheric Pollution Prevention Act provides for the control and regulation of smoke pollution arising from any fuel-burning appliance.

Part 4 of the Atmospheric Pollution Prevention Act (APPA) deals with dust control. Whenever dust originating on any land in a dust controlled area is causing a nuisance to persons residing or present in the



vicinity of that land, the owner or occupier may be required to take the prescribed steps or adopt the best practicable means for the abatement the dust.

#### **2.2.20. NATIONAL WATER ACT 36 OF 1998**

The National Water Act contains a number of provisions that impact on the waste management including the disposing of waste in a manner, which detrimentally impacts on a water resource and the discharge of waste into a water resource. The Act allows the minister to make regulations for:

- ❖ Prescribing waste standards, which specify the quantity, quality and temperature of waste that may be discharged or deposited into or allowed to enter a water resource.
- ❖ Prescribe the outcome or effect, which must be achieved through management practices for the treatment of waste before it is discharged or deposited into or allowed to enter a water resource.
- ❖ Requiring that waste discharged or deposited into or allowed to enter a water resource be monitored and analysed according to prescribed mechanisms.

#### **2.2.21. NATIONAL HEALTH ACT 61 OF 2003**

The National Health Act of 2003 provides a framework for the structured uniform health system within the Republic, taking into account the obligations imposed by the Constitution and the other laws on the national, provincial and local governments with regard to health services; and to provide for matters connected therewith.

Section 32 of Health Act (Act 61 of 2003) requires provincial Health MECs to assign environmental health functions to district and metropolitan municipalities. The definition of these functions in the Health Act includes environmental pollution control, waste management and water quality monitoring.

As a schedule B function in terms of the constitution, municipalities are expected to continue with the funding and provide the expanded definition of municipal health services (RSA 1996). The assignment and delegation of additional environmental health and management functions has led to recognition in the Health Act and the responsibility of the Provincial sphere to contribute towards meeting the additional financial burden. Many district municipalities are having difficulty in restructuring and implementing the new district level arrangements envisaged by the Health Act for the financing and management of environmental health functions. Section 34 of the Health Act makes a provision for transitional arrangements (RSA 2003) in which local municipalities are required to continue providing the services they provided before the Act, and until such time as a Service Level Agreement (SLA) in place. In a number of districts, the EHS devolution process has not yet been finalised. District Municipalities cannot raise income from property rates and do not receive equitable share finance for their given environmental health function. It follows that the Provincial Department of Health is required, through an SLA to assess and make available the resources needed to perform the required environmental health functions. Local municipalities who previously provided environmental health services are expected to continue to provide the finances for these posts, which are required to be transferred to the District level. Additional posts to address newly assigned and delegated functions need to be funded in terms of the Health Act through an



SLA which (a) describes the services; (b) determines the resources that must be made available by the province and those by the municipality and (c) sets the performance and monitoring standards.

The National Act does not address the disposal of health care risk waste as such.

Draft regulations for the control of environmental conditions constituting a danger to health or a nuisance were published in GNR21 of 14 January 2000. In terms of the proposed regulations, registration is required for: concerns that to carry out a scheduled trade, including waste incineration, waste disposal sites and waste collecting, sorting, treating or processing sites. (Including Health Care Risk Waste).

## **2.2.22. WHITE PAPER ON INTEGRATED POLLUTION AND WASTE MANAGEMENT FOR**

### **SOUTH AFRICA, NOTICE 227 OF 2000**

The White Paper on Integrated Pollution and Waste Management was published in March 2000 and represents formal government policy regarding integrated pollution and waste management. Integrated pollution and waste management is defined as a holistic and integrated system and process of management aimed at pollution minimisation at source, managing the impact of pollution and waste on the receiving environment and remediating damaged environments. Waste management is to be implemented in a holistic, integrated manner, extend over the entire waste cycle from the cradle to grave, and will include the generation, storage, collection, transportation, treatment and disposal of waste.

The overarching goal reflected in the policy is integrated pollution and waste management, with the intention being to move away from fragmented and uncoordinated pollution control and waste management as well as waste minimisation. Within this framework, the following strategic goals should be considered:

- ❖ Effective institutional framework and legislation;
- ❖ Pollution and waste minimisation, impact management and remediation;
- ❖ Holistic and integrated planning where the intention is to develop mechanisms to ensure that integrated pollution and waste management considerations are integrated into the developments of government policies, strategies and programmes as well as all spatial and economic development planning processes and in all economic activity.

The strategic mechanisms include the following:

- ❖ The incorporation of integrated environmental management principles and methodologies in spatial development planning as it relates to the pollution and waste management;
- ❖ Making timeous and appropriate provision for adequate waste disposal facilities;
- ❖ Developing management instruments and mechanisms for the integration of pollution and waste management concerns in development planning and land allocation;
- ❖ Developing appropriate and agreed indicators to measure performance for inclusion in EIPs and EMPs as provided for in the National Environmental Management Act;
- ❖ Participation and partnerships in integrated pollution and waste management governance;
- ❖ Empowerment and education in integrated pollution and waste management governance;

- ❖ Information management and International cooperation.

#### **2.2.23. DWAF MINIMUM REQUIREMENTS FOR LANDFILL, SECOND EDITION OF 1998**

The minimum requirements provide applicable waste management standards or specifications that must be met, as well as providing a point of departure against which environmentally acceptable waste disposal practices can be assessed. The objectives of setting minimum requirements are to:

- ❖ Prevent water pollution and ensure sustained fitness for use of South Africa's water resources;
- ❖ Attain and maintain minimum waste management standards in order to protect human health and environment from the possible harmful effects caused by the handling , treatment, storage and disposal of waste;
- ❖ Administration and provision of a systematic and nationally uniform approach to the waste disposal process;
- ❖ Endeavour to make South African waste management practices globally acceptable;
- ❖ Before a waste disposal site is issued, adherence to the minimum requirement conditions will be required from the permit applicant. The Minimum Requirements promote the hierarchical approach to waste management, as well as a holistic approach to the environment.

#### **2.2.24. NATIONAL WASTE MANAGEMENT STRATEGY AND ACTION PLANS**

The overall objective of this strategy is to reduce the generation of waste and the environmental impact of all forms of waste and thereby ensure that uncontrolled and uncoordinated waste management no longer adversely affects the socio economic development of South Africa, the health of the people and the quality of its environmental resources. The internationally accepted waste hierarchical approach was adopted for waste prevention / minimisation, recycle/reuse, treatment and finally disposal.

The strategy outlines the functions and responsibilities of the three levels of government and where possible, firm plans and targets are specified. During the development of a strategy a number of priority strategic initiatives were identified which were categorised into short term (by the year 2004), medium term (by the year 2008), and a long term (by the year 2012) initiatives. Action plans have been developed for the short-term initiatives for integrated waste management planning, a waste information system, waste minimisation and recycling, general waste collection, waste treatment and disposal and capacity building, education, awareness and communication. A logical framework analysis approach was adopted to develop the Action plans that analysed the problems, stakeholders and the risks to successful implementation followed by the development of outputs, activities, inputs and assumptions as well as proposed allocation of functions, roles, and responsibilities of the three levels of government.

The roles and responsibilities in terms of the NWMS for local government include:

- ❖ Integrated waste management planning: local government will be responsible for the compilation of general waste management plans for the submission of provincial government.
- ❖ Waste Information System: local government to be responsible for data collection.
- ❖ Waste minimisation: Local government will implement and enforce appropriate national waste minimisation initiatives and promote the development of voluntary partnerships with industry.
- ❖ Recycling: Local government to establish recycling centres and/or facilitate community initiatives.

- ❖ Waste collection and transportation: local government to improve service delivery. Private public partnerships to assist service delivery are encouraged.
- ❖ Waste Disposal: local government is to take responsibility for the establishment and management of landfill sites, and to promote development of regionally based facilities. Formalising and controlling of scavenging is the responsibility of the permit holder.

#### **2.2.25. MUNICIPAL BY LAWS ON WASTE MANAGEMENT**

The City of uMhlathuze Municipality has in terms of section 156 of the Constitution, 1996 (Act No 108 of 1996) and the National Environment Management Act, Act 59 of 2008 read in conjunction with section 11 of the Municipal Systems Act, 2000, (Act No 32 of 2000) made the By-Laws.

### **2.3. STUDY AREA**

The area of study is the whole of City of uMhlathuze Municipality with 34 Wards  
(See map below)

### **2.4. CITY OF UMHLATHUZE MUNICIPALITY DEMOGRAPHICS**

#### **2.4.1. CURRENT POPULATION AND HOUSEHOLDS**

City of uMhlathuze Municipality is situated on the North-East Coast of Kwazulu-Natal in South Africa. It is one of the Local municipalities within King Cetshwayo District Municipality. City of uMhlathuze Municipality possesses an extensive industrial sector, rich environment and a diverse community. Offices of the Municipality have been established in the towns of Richards Bay, Empangeni, Esikhaleni, Ngwelezane, ENSeleni and Vulindlela.

It also covers Kwa Mkhwanazi Traditional Authority, KwaKhoza Traditional Authority, KwaZungu Traditional Authority and KwaDube Traditional Authority, Somopho (Mthembu), Obuka (Biyela), Obizo (Cebekhulu) and KwaMthiyane Tribal Authority (Mambuka)

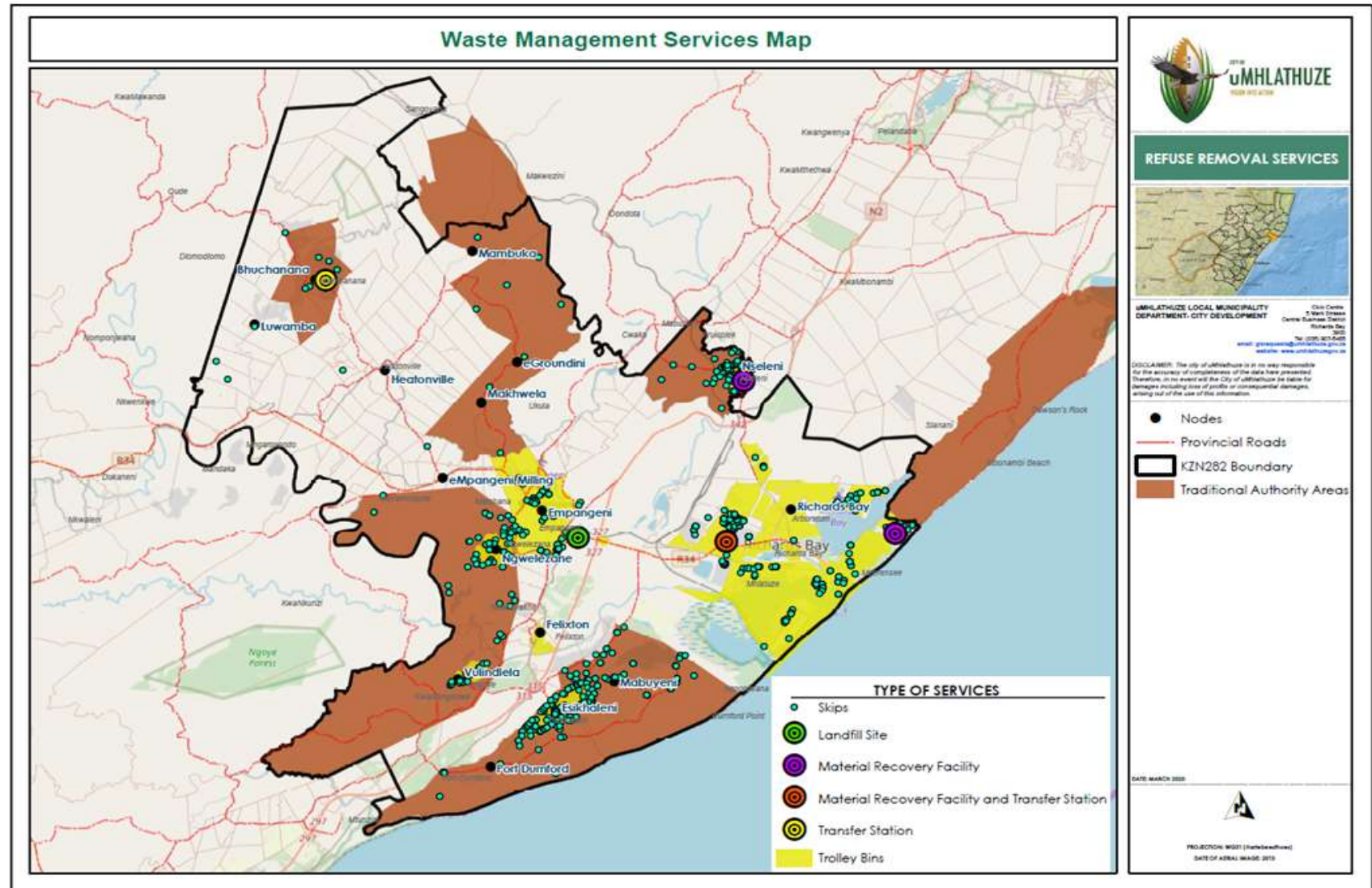
With the addition of former Ntambanana Municipality wards after Local Government Elections in 2016, City of uMhlathuze Municipality has increased its wards from 30 to 34 Wards. The population is estimated at 410 456 as per Community Survey 2016, although in terms of Census 2011 the total population was 334 459. The area of operation is shown below, and service is sitting at 73.36 %.

Richards Bay is considered to be the industrial and tourism hub while Empangeni is the commercial hub and Esikhaleni the largest township in the uMhlathuze Municipality.

The average household size is 3-6 persons per household according to 2011 population census. (2011 Population Census, Statistics South Africa). Of the number of households, 88.3% are formal dwellings. The population density is 422 persons / km<sup>2</sup>. The age group under 15 years was 29.3; 15 to 64 age group were 67.5% and population over 65 years are 3.2%.

The population growth rate was estimated to be 1.45% per annum. However, a higher population growth rate of 2% will also be assumed in the projections considering a high rate of population immigrating to the City of uMhlathuze because of employment opportunities.

REFUSE REMOVAL SRVICE MAP: AREA OF OPERATION



**TABLE 2.4.1.1 Refuse Removal Current Service and Targets**

CITY OF UMHLATHUZE REFUSE REMOVAL									
Objective	Strategies	Performance Indicator	2017/2018	2018/2019	2019/2020	2019/2020	2020/2021	2021/2022	2022/2023
			Actual 2017/2018 Baseline	Actual 2018/2019 Baseline	Amended Annual Target incl. 2016 Survey	Actual 2019/2020 Baseline	Annual Target	Annual Target	Annual Target
To improve access to domestic solid waste removal services to the community	Provide a weekly domestic solid waste removal service to the community	% Households with access to waste disposal	<b>67.74%</b>	<b>69.71%</b>	<b>71.52%</b>	<b>71,55%</b>	<b>73.36%</b>	<b>75.17%</b>	<b>76.98%</b>
		Number of Households with access to waste disposal	<b>74856</b>	<b>77028</b>	<b>79028</b>	<b>79060</b>	<b>81 106</b>	<b>83060</b>	<b>85060</b>
		Number of new Households with access to waste disposal	<b>1500</b>	<b>2172</b>	<b>2000</b>	<b>2032</b>	<b>2000</b>	<b>2000</b>	<b>1500</b>
		Number of Household with access to free waste removal	<b>31391</b>	<b>33563</b>	<b>35563</b>	<b>35595</b>	<b>37641</b>	<b>39595</b>	<b>41595</b>

## 2.4.1.2. Population and Households by type of settlement

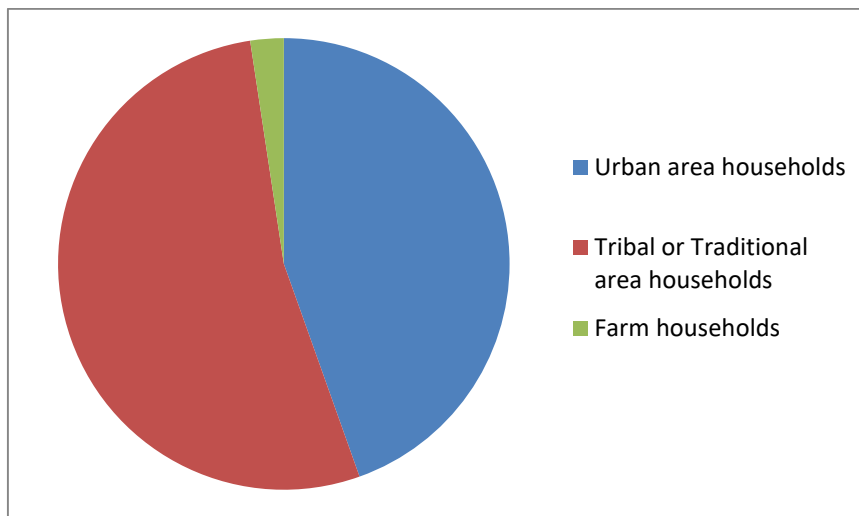
WARD NUMBER	URBAN AREA		TRIBAL OR TRADITIONAL AREAS		FARMS		TOTAL POPULATION	TOTAL HOUSEHOLDS
	POPULATION	HOUSEHOLDS	POPULATION	HOUSEHOLDS	POPULATION	HOUSEHOLDS		
<b>KZN282: uMhlathuze</b>	<b>131871</b>	<b>38589</b>	<b>192481</b>	<b>45952</b>	<b>10107</b>	<b>2068</b>	334459	86609
52802001 - Ward 1	10573	3057	804	211	768	138	12145	3406
52802002 - Ward 2	12254	3931	-	-	-	-	12254	3931
52802003 - Ward 3	9058	2586	-	-	-	-	9058	2586
52802004 - Ward 4	5617	1588	6855	1352	-	-	12472	2940
52802005 - Ward 5	-	-	13635	3003	1928	388	15563	3390
52802006 - Ward 6	3126	1091	9417	2458	-	-	12543	3549
52802007 - Ward 7	1727	476	4169	1757	-	-	5896	2232
52802008 - Ward 8	3526	1237	1611	579	-	-	5137	1816
52802009 - Ward 9	13558	4317+ 1180 + 312	-	-	-	-	13558	4317 + 1180 + 312
52802010 - Ward 10	-	-	11310	2513	-	-	11310	2513
52802011 - Ward 11	-	-	9131	1513	-	-	9131	1513
52802012 - Ward 12	-	-	8319	1714	255	147	8574	1861
52802013 - Ward 13	-	-	14928	2688	-	-	14928	2688
52802014 - Ward 14	-	-	12315	3262	-	-	12315	3262
52802015 - Ward 15	-	-	12252	3063	-	-	12252	3063
52802016 - Ward 16	2751	728	5049	1150	-	-	7800	1878
52802017 - Ward 17	6326	1720	4137	1626	-	-	10463	3346
52802018 - Ward 18	-	-	14887	2879	-	-	14887	2879
52802019 - Ward 19	6018	1667	5270	1231	731	86	12019	2983
52802020 - Ward 20	6069	1666	2483	823	-	-	8552	2488
52802021 - Ward 21	6950	1930	-	-	-	-	6950	1930
<b>Ward Number</b>	<b>URBAN AREA</b>		<b>TRIBAL OR TRADITIONAL AREAS</b>		<b>FARMS</b>		<b>TOTAL POPULATION</b>	<b>TOTAL HOUSEHOLDS</b>



	POPULATION	HOUSEHOLDS	POPULATION	HOUSEHOLDS	POPULATION	HOUSEHOLDS		
52802022 - Ward 22	2807	755	6373	1206	-	-	9180	1960
52802023 - Ward 23	9780	3149 + 501	-	-	923	175	10703	3325 + 501
52802024 - Ward 24	5290	1305	7606	1947	5435	1120	18331	4372
52802025 - Ward 25	-	-	13871	3161	-	-	13871	3161
52802026 - Ward 26	11457	2894	-	-	66	14	11523	2908
52802027 - Ward 27	8873	2673 + 68	-	-	-	-	8873	2673 + 68
52802028 - Ward 28	6110	1821	1329	535	-	-	7439	2356
52802029 - Ward 29	-	-	15367	3367	-	-	15367	3367
52802030 - Ward 30	-	-	11359	3915	-	-	11359	3915
-Ward 31	-	-	9820	2074			9820	2074
-Ward32	-	-	9474	1586			9474	1586
-Ward 33	-	-	10707	1941			10707	1941
-Ward 34								



**Graph 2.4.1. Households by type of settlements**



## 2.5. THE ECONOMY

### 2.5.1. ECONOMIC INDICATORS

Unemployment rates by 1996, 2001 and 2011 population censuses (Statistics South Africa).

**Table 2.5.1. Unemployment rate (1996, 2001, 2011)**

Year	1996	2001	2011
Unemployment Rates	61,9%	40,6%	31,0%

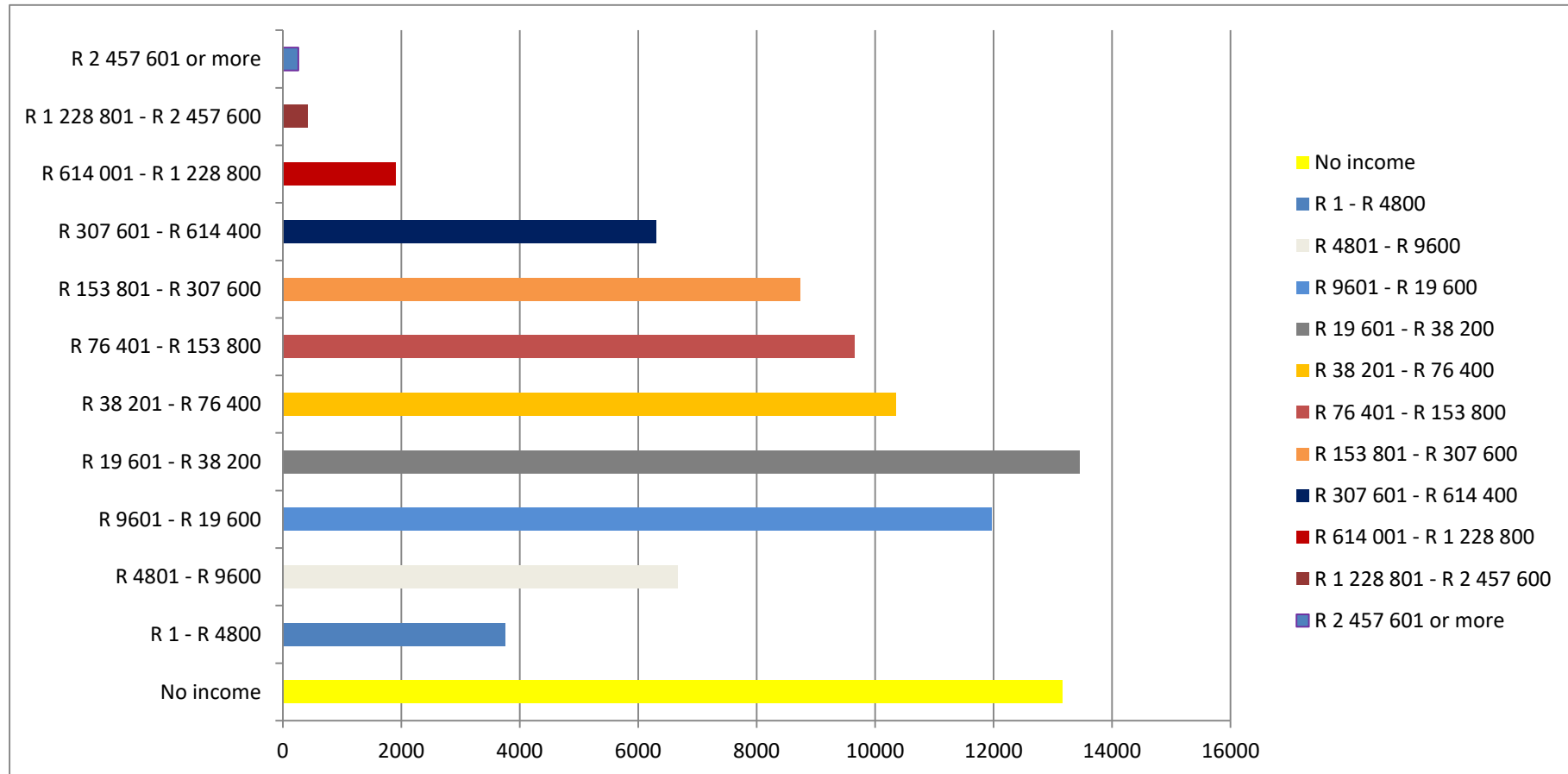
Although the unemployment rate of 31% is still very high, the trends show that there has been an improvement from 1996 to 2011 on the rate of unemployment. Hence, more people have improved economically.

In terms of average household income, in 2001 the average was R59 479-00 as compared to R121 177-00 (2001 and 2011 population censuses, Statistics South Africa)

The official unemployment rate was 31% as compared to the youth unemployment rate of 40, 7 % (2011 population census, Statistics South Africa).

See graph below showing range of income according to number households in 2011. (2011 population census, Statistics South Africa)

**Graph 2.4.1.2. Household Income**



## 2.6. SERVICE DELIVERY

### 2.6.1. REFUSE REMOVAL

The tables below shows the distribution of households by type of refuse in 2011 for Urban areas, Tribal/Traditional and by Farm areas (2011, Population Census, Statistics South Africa)

**Table 2.6.1. Refuse Removal per area**

URBAN AREA						
Ward Number	Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
<b>KZN282: uMhlatuze</b>	<b>36604</b>	<b>82</b>	<b>359</b>	<b>1378</b>	<b>125</b>	<b>40</b>
52802001: Ward 1	2065	16	48	858	63	7
52802002: Ward 2	3897	7	16	6	1	4
52802003: Ward 3	2570	6	5	5	-	-
52802004: Ward 4	1571	6	3	5	-	3
52802005: Ward 5	-	-	-	-	-	-
52802006: Ward 6	1073	4	3	9	-	2
52802007: Ward 7	474	-	-	2	-	-
52802008: Ward 8	1229	2	-	5	-	1
52802009: Ward 9	4243	9	10	38	13	4
52802010: Ward 10	-	-	-	-	-	-
52802011: Ward 11	-	-	-	-	-	-
52802012: Ward 12	-	-	-	-	-	-
52802013: Ward 13	-	-	-	-	-	-
52802014: Ward 14	-	-	-	-	-	-
52802015: Ward 15	-	-	-	-	-	-
52802016: Ward 16	725	-	2	2	-	-
52802017: Ward 17	1700	-	1	14	-	5
52802018: Ward 18	-	-	-	-	-	-
52802019: Ward 19	1615	-	11	39	1	1
52802020: Ward 20	1644	1	4	11	3	3
52802021: Ward 21	1671	1	189	65	4	-

**URBAN AREA**

Ward Number	Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
52802022: Ward 22	743	2	-	9	-	-
52802023: Ward 23	3103	4	5	22	11	4
52802024: Ward 24	1270	5	3	26	-	-
52802025: Ward 25	-	-	-	-	-	-
52802026: Ward 26	2861	11	1	11	8	3
52802027: Ward 27	2487	5	-	161	19	2
52802028: Ward 28	1663	4	59	90	3	1
52802029: Ward 29	-	-	-	-	-	-
52802030: Ward 30	-	-	-	-	-	-

**TRIBAL OR TRADITIONAL AREA**

Ward Number	Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
KZN282: uMhlatuze	9068	938	1613	31031	2775	527
52802001: Ward 1	11	3	-	183	10	3
52802002: Ward 2	-	-	-	-	-	-
52802003: Ward 3	-	-	-	-	-	-
52802004: Ward 4	528	89	8	715	6	6
52802005: Ward 5	153	44	123	2501	176	6
52802006: Ward 6	747	47	10	1647	6	2
52802007: Ward 7	714	12	295	693	35	9
52802008: Ward 8	22	3	2	552	-	-
52802009: Ward 9	-	-	-	-	-	-
52802010: Ward 10	70	42	29	2121	85	165

TRIBAL OR TRADITIONAL AREA						
Ward Number	Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
52802011: Ward 11	21	5	5	989	470	23
52802012: Ward 12	24	14	44	1628	2	3
52802013: Ward 13	119	33	98	2361	68	9
52802014: Ward 14	1134	16	66	1914	118	13
52802014: Ward 15	984	23	231	1625	60	139
52802016: Ward 16	219	9	180	710	26	4
52802017: Ward 17	1040	110	120	208	136	12
52802018: Ward 18	504	66	33	2045	221	11
52802019: Ward 19	362	9	17	781	54	8
52802020: Ward 20	519	31	116	131	23	1
52802021: Ward 21	-	-	-	-	-	-
52802022: Ward 22	306	81	81	720	17	1
52802023: Ward 23	-	-	-	-	-	-
52802024: Ward 24	56	61	59	1734	32	5
52802025: Ward 25	238	48	18	2001	781	75
52802026: Ward 26	-	-	-	-	-	-
52802027: Ward 27	-	-	-	-	-	-
52802028: Ward 28	49	13	1	465	4	3
52802029: Ward 29	199	55	66	2625	411	12
52802030: Ward 30	1050	124	11	2680	36	14
Ward 31						
Ward 32						
Ward 33						
Ward 34						
FARM						
Ward Number	Removed by local authority/ private company at least once a week	Removed by local authority/ private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
KZN282: uMhlathuze	654	260	239	837	60	19
52802001: Ward 1	49	3	-	87	-	-

52802002: Ward 2	-	-	-	-	-	-
52802003: Ward 3	-	-	-	-	-	-
52802004: Ward 4	-	-	-	-	-	-
52802005: Ward 5	135	62	12	161	6	11
52802006: Ward 6	-	-	-	-	-	-
52802007: Ward 7	-	-	-	-	-	-
52802008: Ward 8	-	-	-	-	-	-
52802009: Ward 9	-	-	-	-	-	-
52802010: Ward 10	-	-	-	-	-	-
52802011: Ward 11	-	-	-	-	-	-
52802012: Ward 12	7	137	1	2	-	-
52802013: Ward 13	-	-	-	-	-	-
52802014: Ward 14	-	-	-	-	-	-
52802015: Ward 15	-	-	-	-	-	-
52802016: Ward 16	-	-	-	-	-	-
52802017: Ward 17	-	-	-	-	-	-
52802018: Ward 18	-	-	-	-	-	-
52802019: Ward 19	-	1	3	41	40	1
52802020: Ward 20	-	-	-	-	-	-
52802021: Ward 21	-	-	-	-	-	-
52802022: Ward 22	-	-	-	-	-	-
52802023: Ward 23	25	7	42	98	-	4
52802024: Ward 24	425	50	181	447	14	3
<b>FARM</b>						
Ward Number	Removed by local authority/ private company at least once a week	Removed by local authority/ private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
52802025: Ward 25	-	-	-	-	-	-
52802026: Ward 26	14	-	-	-	-	-
52802027: Ward 27	-	-	-	-	-	-
52802028: Ward 28	-	-	-	-	-	-
52802029: Ward 29	-	-	-	-	-	-
52802030: Ward 30	-	-	-	-	-	-

:Ward 31						
:Ward 32						
:Ward 33						
:Ward 34						

There were 37 641 households with access to free basic service in 2020/21.

The number of households serviced for Solid Waste were 81106 in 2020/21, (2046 new households)

They were 81106 households where refuse was removed at least once a week.

## 2.7. NEW DEVELOPMENTS

### 2.7.1. NEW DEVELOPMENTS

New residential and commercial developments included in 2022/2023 IDP will be included in refuse collection services to be rendered .see table below:

**Table 2.7.1. Showing new residential developments**

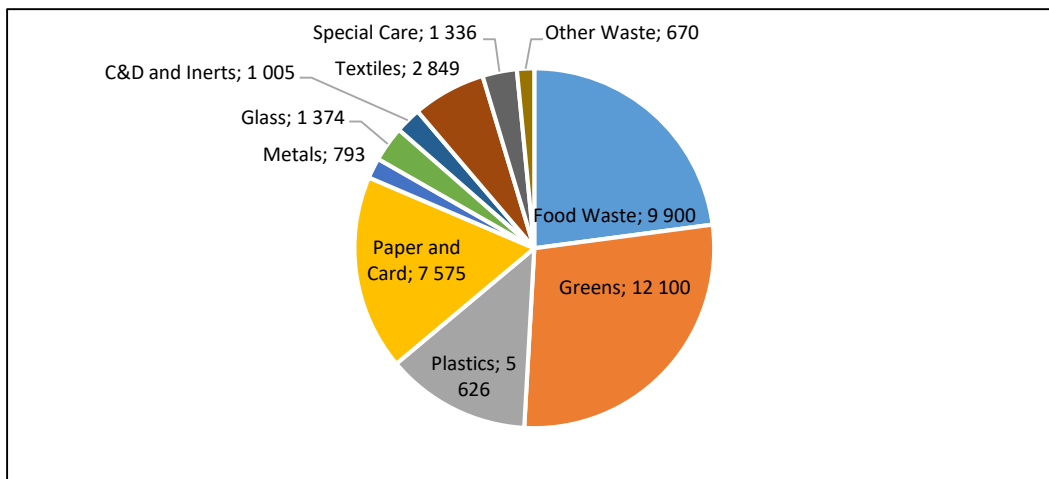
PROJECT NAME	WARD	NO OF HOUSES
Dumisani Makhaye Village Phase 6	9	0
Dumisani Makhaye Village Phase 8	24	132
Empangeni Mega Housing Phase 1	5,23,24	146
Aquadene Housing	26	0
The Ridge	02	0

## 2.8. WASTE TYPES AND QUANTITIES

### 2.8.1. WASTE TYPES

The waste types in City of uMhlatuze Municipality are:

- ❖ Household/ Domestic waste
- ❖ Health Care Risk waste
- ❖ Building waste
- ❖ Industrial waste
- ❖ Mining waste
- ❖ Commercial waste
- ❖ Garden/Green waste)
- ❖ Illegal dumping
- ❖ Recyclable materials e.g. glass, plastic, paper, cardboards
- ❖ Hazardous waste.



**Figure 2.8.1. Showing different waste types that resulted from a waste characterisation exercise**



### **2.8.2. WASTE MANAGEMENT ON DIFFERENT TYPES OF SETTLEMENT**

City of uMhlathuze Municipality has 34 Wards and the number of households increased from 86 609 in 2011 (population census) to 110 503 as per Community Survey 2016 hence it is also noted that there are other wards to be acquired from Ntambanana local municipality based on the new demarcation system. Out of the total households, 81106 households are serviced. Free basic service is also rendered to 37 641 low-income (indigent) households. There are more than 285 skips currently dedicated to rural communities. Service delivery is accessible to at least 73.36 % when communal skips servicing rural communities and rural schools are considered.

S

Table 2.8.2.1. Showing different methods of waste management in different types of settlements.

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
<b>Households</b>	Collection is done once a week in urban suburbs. The wheelie bin method of collection is used. There also street bins in some areas.	Both the wheelie bin method and skip method are used. There are also street bins in some areas. Waste is collected every day.	There are more than 285 skips currently dedicated to rural communities. Usage of skips in rural areas depends on accessibility.	The most common method used is burning and decomposition of the waste. Skips are also provided in some semi-urban areas.	Waste is collected once a week. Both wheelie bins and skips are provided. Waste in skips is only collected when they are full. There are also street bins in some areas.	Informal settlements are serviced by providing skips e.g. those around Esikhaleni, Vulindlela and eNseleni.
<b>Health Care Risk Waste</b>	The medical institutions are responsible to dispose their waste by engaging private companies.	The medical institutions are responsible to disposing their waste by engaging private companies.	None	None	The medical institutions are responsible to dispose their waste by engaging private companies.	None
<b>Schools Waste</b>	Waste Management Section handles school waste by providing skips and/or wheelie bins to schools.	Waste Management Section handles school waste by providing skips and/or wheelie bins to schools.	Rural area schools are not serviced directly by Waste Management Section. However, they manage their waste within their premises recycling and using communal skips nearby.	No schools	Waste Management Section handles school waste by providing skips and/or wheelie bins.	No schools
<b>Building Rubbles</b>	The builders request for a skip from Waste	The builders request for a skip from Waste	The builders handle their waste and many dump it	The builders handle their waste.	The builders handle their waste and	The builders handle their waste and

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
	management office. Once the skip is full, they contact the office again to collect the rubbles.	management office. Once the skip is full, they contact the office again to collect the rubbles.	illegally.		many dump it illegally.	many dump it illegally.
<b>Industrial Waste</b>	<p>The main industries in Richards Bay are:</p> <ul style="list-style-type: none"> <li>• Portnet</li> <li>• Richards Bay Coal</li> <li>• Bell</li> <li>• Mondi</li> <li>• Foskor</li> <li>• Silva cell</li> <li>• Shincel</li> <li>• CTC</li> <li>• Felixton Sugar Mill</li> </ul> <p>Most of the industries recycle their waste.</p>	None	None	None	None	None
<b>Mining Waste</b>	<p>The main mines are:</p> <ul style="list-style-type: none"> <li>• Ticor Hillendale</li> <li>• Hillside Aluminium</li> <li>• Bayside Aluminium Smelter</li> <li>• Tronox Sands</li> </ul> <p>Most of their waste is</p>	None	None	None	None	None

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
	recycled.					
<b>Commercial Waste</b>	Most of the waste is recycled. However, wheelie bins are also provided for Shops. The collection is done one a week.	Some waste is recycled. Skips and wheelie bins are provided. The collection is done every day, including street bins.	Shop owners manage commercial waste by mostly burning it.	Shop owners manage commercial waste by mostly burning it.	Skips are provided. The collection is done when skips are full.	Skips are a provided for informal settlements around townships. The collection is done when skips are full.
<b>Garden Waste</b>	<p>The City of uMhlathuze Municipality has a transfer station for garden waste where residents can dispose. Garden waste is then transported to King Cetshwayo Regional Landfill in Empangeni.</p> <p>It should be noted that a lot of garden waste is also dumped illegally.</p>	<p>The City of uMhlathuze Municipality has a transfer station for garden waste where residents can dispose. Garden waste is then transported to King Cetshwayo Regional Landfill in Empangeni.</p> <p>It should be noted that a lot of garden waste is also dumped illegally.</p>	Most of garden waste is decomposed.	Most of garden waste is decomposed.	Skips are used for most of garden waste. However, a lot of it is legally dumped.	Most garden waste is decomposed or illegally dumped.

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
<b>Illegal Dumped Waste</b>	<p>Illegal dumping occurs in urban suburbs although at an increasing rate. It is mainly for garden waste and building rubble. The municipality clears out illegally dumped waste regularly.</p> <p>Grab-trucks and TLB are used to remove illegal dumped waste in all areas.</p>	<p>Illegal dumping does occurs in CBD. The municipality clears out illegally dumped waste regularly.</p> <p>It is mainly for garden waste and building rubble.</p>	<p>In rural areas, illegal dumping is mainly for garden waste and building rubble.</p> <p>However, a lot of garden waste is decomposed.</p>	<p>Illegal dumping is mainly for garden waste and building rubble.</p> <p>However a lot of garden waste is decomposed</p>	<p>Illegal dumping does occur in townships and most of it is for garden waste and building rubble. The municipality clears out illegally dumped waste regularly.</p>	<p>Illegal dumping occurs in townships and most of it is for garden waste and building rubble. The municipality clears out illegally dumped waste regularly.</p>
<b>Recyclable Materials</b>	<p>The Municipality is managing a kerb-recycling project with the aim of increasing recyclable materials recovered from the suburbs. There are Kerb-recycling projects in Meerensee and Birdswood collected by the municipality. Kerb recycling projects in Felixton and other parts of Richards Bay are collected by waste-preneurs. Reusable waste is put into yellow refuse bags supplied by the</p>	<p>Some Commercial businesses are recycling their waste.</p> <p>However, recyclable waste of some businesses is taken to different Material Recovery Facilities for separation.</p>	<p>There are a few recycling materials in rural areas.</p>	<p>Some few farms take their waste for recycling but most waste is garden and livestock waste.</p>	<p>Mzingazi and eNseleni are the only townships that have municipal Material Recovery Facilities for recycling at the moment. Kerb recycling projects from suburbs feed these facilities.</p> <p>However, there are plans to search for land in Esikhaleni, Empangeni, Ngwelezane and Dlangezwa to</p>	<p>Informal settlements do not have facilities for recycling. For those informal settlements, which have access to skips, waste is taken to Alton station for separation.</p>

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
	municipality. The refuse bags containing reusable materials are collected weekly on Wednesday and Thursday and delivered to different Material Recovery Facilities for sorting into various usable items by waste-preneurs on sites.				establish four Material Recovery Facilities.  There are few Kerb Recycling projects within the townships that are collected by waste-preneurs.	
<b>Hazardous Waste</b>	The City of uMhlathuze Municipality does not have hazardous waste disposal facilities. The King Cetshwayo Landfill within the City is for general waste. Hence, it does not cater for hazardous waste or used oil or Health Care Risk Waste. The landfill site for hazardous waste is in Stanger.	The City of uMhlathuze Municipality does not have hazardous waste disposal facilities. The waste is taken to a Hazardous Waste Landfill in Stranger.	The City of uMhlathuze Municipality does not have a hazardous waste disposal facility. The waste is taken to a Hazardous Waste Landfill in Stranger.	The City of uMhlathuze Municipality does not have hazardous waste disposal facility. The waste is taken to a Hazardous Waste Landfill in Stranger.	The City of uMhlathuze Municipality does not have hazardous waste disposal facilities. The waste is taken to a Hazardous Waste Landfill in Stranger.	The City of uMhlathuze Municipality does not have hazardous waste disposal facilities. The waste is taken to a Hazardous Waste Landfill in Stranger.
<b>Street cleaning waste</b>	Street cleaning is done daily in this area. Litter plastics created from cleaning are placed in pavements and collected daily by municipal truck.  Street bins located in	Street cleaning is done every day in this area using plastic bags. Litter plastics created from cleaning are placed in pavements and collected daily by municipal truck.	Litter picking and cleaning around the skips has been extended to rural areas conducted by EPWP	There is no street cleaning in this area.	Street cleaning is done daily in this area. Litter plastics created from cleaning are placed in pavements and collected daily by municipal truck.	Litter picking and cleaning around the skips has been extended to rural areas conducted by EPWP.

AREAS	URBAN SUBURBS	CBD	RURAL AREAS(TRIBAL)	COMMERCIAL FARMS	TOWNSHIPS	INFORMAL SETTLEMENT
	main roads are emptied and collected daily.	Street bins located in critical areas within the CBD are emptied and collected daily.			Street bins located in main roads are emptied and collected daily.	

**Table 2.8.2.2 Volume of the waste generated for the City of uMhlathuze Municipality by December 2021 separated by waste type per month**

TYPE OF WASTE GENERATED PER MONTH									
MONTH	NON- INFECTIOUS ANIMAL WASTE	ABATTOIR	BUILDERS RUBBLE	DOMESTIC WASTE	GREEN WASTE	SEWER SLUDGE	TYRES	TOTAL MONTHLY KG'S WASTE	AVERAGE TONS PER DAY
January	0	0	0	3 581 700	146 080	0	0	3 727 780	120,3
February	120	0	0	3 627 080	148 920	4 000	0	3 780 120	135,0
March	0	0	0	3 968 840	253 100	0	0	4 221 940	136,2
April	220	0	0	3 157 340	316 280	0	0	3 473 840	115,8
May	0	0	13 720	5 434 160	3 254 060	0	0	4 128 800	280,7
June	0	0	0	3 695 860	337 360	2 860	0	4 036 080	134,5
July	0	0	69 680	2 863 040	156 680	4 620	0	3 094 020	99,8
August	140	0	22 620	3 878 700	133 840	0	0	4 035 300	130,2
September	0	0	57 700	3 387 380	253 020	0	0	3 698 100	123,3
October	0	0	6 080	3 926 200	309 740	7 940	0	4 249 960	137,1
November	280	0	0	3 781 480	316 900	4 180	0	4 102 840	136,8
December	140	0	12 760	4 256 200	389 660	2 480	0	4 661 240	150,4
<b>TOTALS</b>	<b>900</b>	<b>-----</b>	<b>182 560</b>	<b>45557980</b>	<b>6 015 640</b>	<b>26 080</b>	<b>-----</b>	<b>51 783 160</b>	<b>1 700.1</b>



**Table 2.8.2.3. The quantities of waste disposed and quantities recycled by the Municipality in 2021:**

<b>GENERAL WASTE RECORDS</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUNE</b>	<b>JULY</b>	<b>AUG</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
Quantities Disposed by Municipality	3727780	3780120	4221940	3 473 840	4 128 800	4 036 080	3094020	4035300	3698100	4 249 960	4 102 840	4 661 240
Waste Quantities Recycled	886201	1059312	1220246	1 088 819	1 050 853	1 030 063	814175	1065354	1120469	990 047	1 239 362	1 130 503
<b>% Waste Minimization</b>	<b>23.80</b>	<b>28.00</b>	<b>28.90</b>	31.34	25.45	25.52	26.16	26.40	30.30	23.29	30.20	24.25
<b>Annual Average</b>	<b>27%</b>											

## 2.9. COLLECTION OF WASTE BY DAYS AND COLLECTION POINTS

Table 2.9. Collection days and points for waste removal at different areas

ESIKHALENI			
Day	Number of vehicles used	Collection Routes	Collection Points
Monday	6 – For trolley bin collection 1 – For skips collection	Part of Section H2; Mandlankala Skips; Mpembeni Skips; Esikhaleni Skips; Vulindlela Skips; Unizulu Skips; Gobandlovu Skips; J and H Section Bags; Vulindlela Bags	3150
Tuesday	+/-3 Compactor trucks at workshop/week	Part of Section H2; Esikhaleni Skips; Mkhobosa Skips; Chibini Skips; Port Dunford Skips; Iniwe Skips; Unizulu Skips; All schools ; All hostels; J and H Section Bags; Esikhaleni Mall Bags; Vulindlela Shopping Centre Bags; Khandisa Road Bags.	400
Wednesday		Part of Section J1; Part of Section J2; Mpembeni Skips; Mkhobosa Skips; Esikhaleni Section H Skips; Vulindlela Skips; J and H Section Bags; Esikhaleni Mall Bags; Vulindlela Bags; Insezi Bags; Police Station Bags.	2871
Thursday		Dlangezwa ; Ntuzi Clinic; Part of Section J2; Dlamvuzo; Mkhobosa Skips; Esikhaleni Section H Skips; Vulindlela Skips; Mandlankala Skips; Emadukwini Skips; Unizulu Skips; Iniwe Skips; All schools; All hostels; J and H Section Bags; Esikhaleni Mall Bags; Vulindlela Bags.	389
Friday		Part of Section H2; Part of Section H1; Esikhaleni Skips; Unizulu Skips; Vulindlela schools; Complex Bags; Esikhaleni Mall Bags; Vulindlela Bags.	750

RICHARDS BAY			
Day	Number of vehicles used	Collection Routes	Collection Points
Monday	6 – For trolley bin collection 1 – For skips collection  +/-6 Compactor trucks at workshop/week	Residential Bins: Birdwood, Arboretum, Aquadene, Brackenhams, Insezi, Meerensee 1 and 2, Veldenvlei, Wildenweide. Commercial Skips and Bins: CBD, Taxi Rank, RBM, RBCT, NCT, ZCBF, Bell, Arboretum Spar, Mondi, South 32, Small Craft Harbour, Silvercel, Portnet, All Hotels, Meerensee Shopping Centre, Country Club, Gamula Flats, Alkastrand, Ski-boat Club, Foskor, Gecko Inn, Bay Lodge, YMCA, Dollar Drive, Paseta Parade, Rupee Rif, Airport, The Ridge, Treetop B&B, Green Africa, Meerensee Boat Club.	3357
Tuesday		Residential Bins: CBD, Brackenhams, Aquadene, EeNseleni. Commercial Skips and Bins: CBD, Alton, Aquadene, Brackenhams, Insezi, Meerensee Shopping Centre, Premier Hotel.	3991
Wednesday		Residential Bins: CBD, Tuzi Gazi Village, Waterfront, Meerensee 5 and 6, Essenwood Flats, Davidson Lane Flats. Commercial Skips and Bins: CBD, Bell, Mondi, All Hotels, Country Club, Meerensee Shopping Centre, Airport, Bay Lodge, YMCA, Alkastrand, Ski-boat Club, South 32, Foskor, Small Craft Harbour, Scribante, ZCBF, Arboretum Spar, Taxi Rank.	3323
Thursday		Residential Bins: CBD, Arboretum, Birdwood, Meerensee 1 and 2, Gamula Flats. Commercial Skips and Bins: CBD, RBM, RBCT, NCT, Alton, Portnet, Silvercel, Mondi, Premier Hotel, Meerensee Shopping Centre, RBM Ponds, Bell, Meerensee Boat Club, Dollar Drive, Paseta Parade, Rupee Rif.	3264
Friday		Residential Bins: CBD, Birdwood, Arboretum, Gecko Inn, Bay Lodge, Meerensee 1 and 2, Aquadene, Brackenhams, Insezi. Commercial Skips and Bins: CBD, Taxi Rank, Arboretum Spar, All Hotels, Small Craft Harbour, Alkastrand, Ski-boat Club, Meerensee Shopping Centre, Country Club, Alton, Mondi, South 32, Foskor.	3317

EMPANGENI			
Day	Number of vehicles used	Collection Routes	Collection Points
Monday	6 – For trolley bin collection 1 – For skips collection	CBD – Commercial Skips and Bins; Thanduyise Highway; Slovo; Bomvini; Ngwelezane – Bhubesi Rd and Half of Section B; Umhlathuze Village Phase 2; Hillview Village; Noordsig Park.	2374
Tuesday	+/-4 Compactor trucks at workshop/week	CBD – Commercial Skips and Bins; Umhlathuze Village Skips; Ngwelezane Skips; Grantham Park; Tanner Road to Inyanga Motors; Ngwelezane Road, Plantina and Copper Drive.	2170
Wednesday		CBD – Commercial Skips and Bins; Nqutshini Reserve Skips; Ndabayakhe Reserve Skips; Iniwe Reserve Skips; Zidedele Village ; Felixton; Richem; Kildare; uMhlathuze Village Phase 1.	2916
Thursday		CBD – Commercial Skips and Bins; Umhlathuze Village Skips; Ngwelezane Skips; Ngwelezane A Section (Jabulani); Ngwelezane B Section (Phesheya School); Khuleka Industrial Park; Ngwelezane Road and Tanner Road; Nyala Park.	2193
Friday		CBD – Commercial Skips and Bins; Matshana Reserve Skips; Dondolo Reserve Skips; Mevamhlophe Reserve Skips.	2193

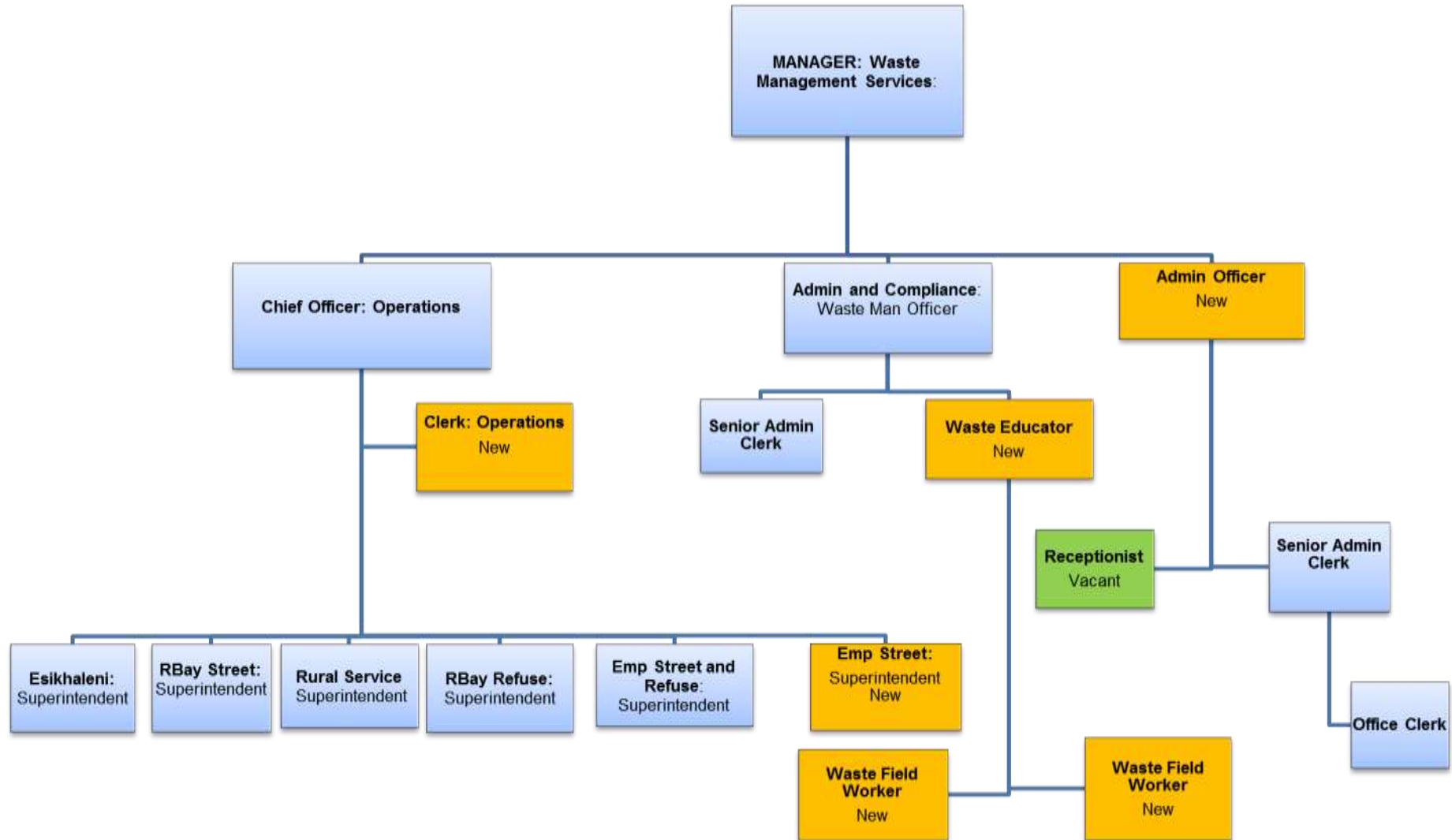
## **2.10. WASTE MANAGEMENT SYSTEMS**

### **2.10.1. WASTE MANAGEMENT ORGANISATIONAL STRUCTURE**

The Waste Management Section is now divided into two divisions:

- Waste Management: Operations
- Waste Management: Administration and Compliance

The Proposed structure of Waste Management Section of City of uMhlathuze Municipality is as follows:



## 2.10.2. FLEET FOR WASTE MANAGEMENT

### 2.10.2.1. FLEET

The vehicles utilised by the City of uMhlathuze Municipality for waste management can be referred to in Appendix B.

There are challenges of fleet maintenance, which often affect the operations, as repairs are not attended to timelessly. Besides, there is no arrangement to standby vehicles in case of break down. Based on the assessment, it has been discovered that the minimum amount of vehicles used to manage waste could have a negative impact on the mechanical side of the equipment.

## 2.10.3. EQUIPMENT / MATERIAL

TYPE OF WASTE	EQUIPMENT
Domestic Waste	Refuse bags, Wheelie bins, Skips, Refuse Trucks, Skip Loaders
Commercial waste	Skips, Street bins, Refuse trucks, Pole bins, Wheelie bins
Industrial waste	Skips, Refuse trucks, Grab trucks, Wheelie bins
Institutions waste eg. Hotels, Bread & Breakfast, Shopping malls, Community halls, Schools, Industries, Hospitals, The Harbour, Banks, Diesel depot, Taxi ranks	Skips, Wheelie bins, Refuse trucks, Refuse bags, Pole bins
Illegal waste	Refuse bags, Grab trucks, Refuse trucks, TLB
Garden waste	Skips, Skip Loaders
Street waste	Refuse bags, Refuse trucks, Pole bins
Recyclable waste	Yellow refuse bags, Recycling trucks

## 2.10.4. LANDFILLS, TRANSFER STATIONS AND MATERIAL RECOVERY FACILITIES

### 2.10.4.1. LANDFILL SITE

The regional landfill the Municipality uses for general waste disposal is situated within the City of uMhlathuze jurisdiction and is owned by the district municipality. King Cetshwayo District Municipality was granted authority to develop and operate the landfill site according to the requirements of the Permit Conditions issued in terms of Section 20(1) of the Environmental Conservation Act 73, 1989. The permit was issued in 2003 under the name uThungulu District Municipality (Permit Number 16/2/7/W1/D1/Z1/P485) and it was amended in 2012 to incorporate recycling on site under a new Waste Management Licence number (DC 28/WML/0002/2012).



**Figure 10.4.1. (a): Access gate and active cell at regional landfill**

The landfill site design can accommodate seven waste cells and has a lifespan of at least 35 years. However, some of the findings of the Master Plan indicated a total lifespan for the site of 70 years from May 2013.



**Figure 10.4.1. (b): Aerial view of landfill site and cell allocations**

In terms of ownership of equipment, the landfill acquires the equipment through tendering or hiring.

The site has a 60 ton weighbridge, which is serviced bi-annually and calibrated every two years. The weighbridge records the weight of the waste disposed on a daily basis and the data is made available to the municipality quarterly.





**Figure 10.4.1 (c): Regional landfill weighbridge**

#### **2.10.4.2. Transfer Stations and Material Recovery Facilities**

The municipality has two (2) transfer stations; there are in Alton and Ntambanana. Alton Transfer Station is used as a transfer station for the collection of green waste, which assists in decreasing the level of illegal dumping in the Richards Bay area. Ntambanana Transfer station is a newly renovated facility inherited from Ntambanana Municipality as per the IWMP implementation plan. It's a transfer station for domestic waste collected from rural areas from smaller communal skips and allows for minimal single truck trips from Ntambanana to the regional landfill in Empangeni for waste disposal.



**Figure 2.10.4.2. (a) Newly renovated Material Recovery Facility in Ntambanana**

The above-mentioned transfer stations are also used as Material Recovery Facilities in order to increase recycling within the City.



**Figure 2.10.4.2. (b) Material Recovery Facility in Alton**

The establishment of Material Recovery Facilities, which are also termed Recycling Centres, is in line with the National Management Strategy, the Waste Act and the City of uMhlathuze Waste Management Strategy. The fact that waste is a resource with an unlimited potential for job creation cannot be over emphasised. It bears noting that a platform for role players in recycling is not fairly levelled. Therefore, the Municipality has newly constructed Material Recovery Facilities (MRFs) which are already operating and contributing to the community directly. These include Mzingazi Material Recovery Facility and eNseleni Material Recovery Facility.

Each MRF accommodates local waste-preneurs that previously recycled from their own backyards to sort different recyclables for their own financial benefit. Facilities in Alton, Mzingazi and eNseleni are provided with recyclable waste by the Municipality from the kerb-recycling programme in addition to recyclables waste-preneurs collect on their own.



**Figure 2.10.4.2. (c) Material Recovery Facility in Nseleni**



Figure 2.10.4.2. (d) Material Recovery Facility in Mzingazi

As part of compliance, all these facilities have been registered in terms of Section 4 of National Norms and Standards for Sorting, Shredding, Grinding, Crushing, Screening or Bailing of General Waste 2017.

## 2.10.5. WASTE MINIMISATION

### 2.10.5.1. RECYCLING PROGRAMME

The City of uMhlatu Municipality has a Recycling Programme that responds to the implementation of Waste Hierarchy and to promote Waste Minimisation, Re-Use, Recycling and Recovery of Waste.

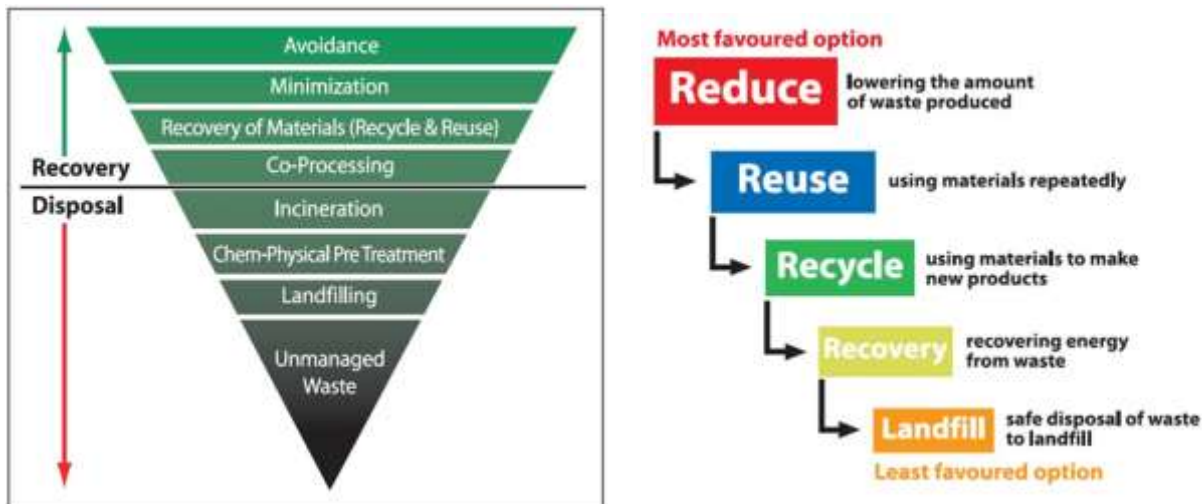


Figure: Diagrams depicting the Basic Waste Management Hierarchy

To achieve this programme the following activities are promoted and are being implemented by the Municipality:

- Increase the recycling rates of products;
- Reduce the percentage of recyclable material to landfill;
- Ensure separation at source in our Municipality;

- Encourage the establishment of Material Recovery Facilities (MRFs);
- Encourage alternative treatment of waste; and
- Support the diversion of high calorific waste from landfill to recovery options.

Individuals within the Municipality get involved in recycling for different reasons, but one of the main reasons is the positive effect it has to the environment, one of those are:

- To reduce the amount of waste and recyclable material sent to landfill;
- Conserve natural resources such as timber, water and minerals;
- Prevent pollution by reducing the need to collect raw materials;
- Saves energy;
- Reduce Green House Gas (GHG) emissions that contribute to global climate change; and
- To help sustain the environment for future generations.

Recycling as a programme has different operations within the Municipality and all are significant to environmental conservations. Some of these operations include:

- Private Public Partnership Recycling;
- Individual Recyclers/ Private Recyclers;
- Buy Back Centres;
- Business Recycling Companies;
- Kerb Recycling; and
- Material Recovery Facilities.

Specifically operated by the Municipality is Kerb Recycling (also called Separation of Waste at Source); which is an approach that has been demonstrated worldwide to improve the recycling rate. Currently the City of uMhlathuze has five areas where separation at source is taking place, in selected suburbs and township areas. In these areas, each household gets a yellow plastic bag for recyclables over and above the trolley bin service. A bush truck collects Recyclables from two suburbs to Material Recovery Facilities on the day of removal for further sorting. Recyclables from the other areas are collected by separate recycling waste-preneurs (SMMEs) with their own transport, on the day of removal and sort at their recycling sites.

Garden refuse is also used for the creation of composite sites especially in rural tribal areas and farms.

#### **2.10.5.2. WASTE FLAGSHIP PROGRAMME: ALTERNATIVE TREATMENT OF WASTE**

In 2015, the National Department of Environmental Affairs (renamed Department of Environment, Forestry and Fisheries) selected the City of uMhlathuze as one of the six municipalities to participate in the “Diversion of Waste Away from Landfill Waste Flagship Programme”. During the pre-feasibility study in 2016, a number of different technologies were evaluated and the most preferred technology for the municipality was the Multi Decentralized Composting of Food Waste technology. In summary, this technology will allow food waste to be separated at source from selected residential and commercial premises, collected and produce compost from multiple decentralised containerised composting units. In

addition to food waste, a certain percentage of green and paper waste material will also be used to produce the final product.

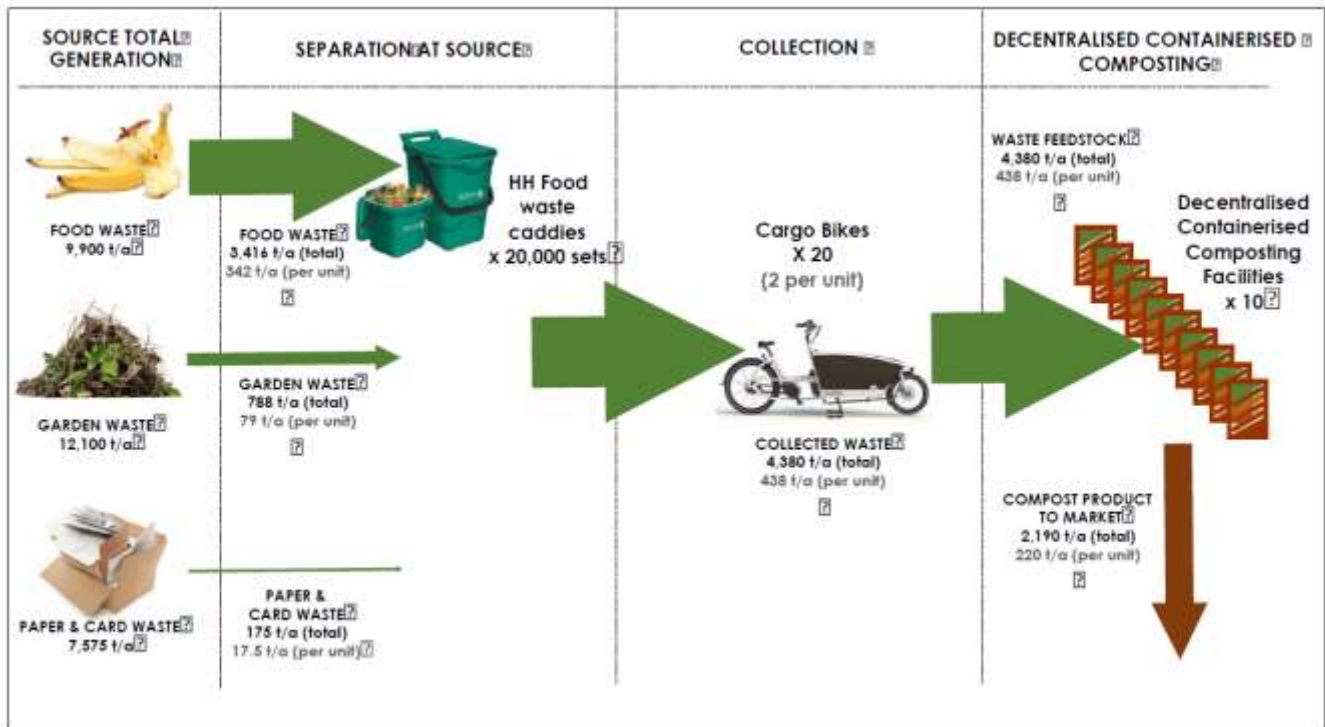
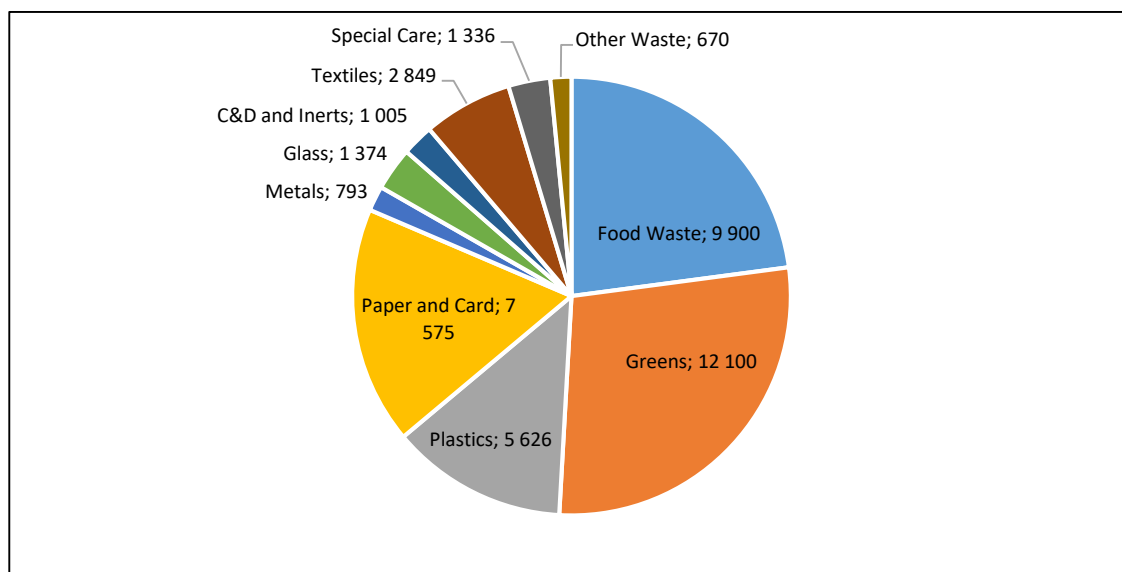


Figure 2.10.5 (a) Diagram summarizing the Multi Decentralized Composting of Food Waste technology

This preferred technology was selected from a waste characterisation exercise, shown below, that depicts that majority of the waste the municipality disposes in the landfill as green and food waste. Hence, the diversion of organic waste will not only save the municipality on landfilling costs but will also positively



contribute to the mitigation of climate change.



**Figure 2.10.5. Waste characterisation results from pre-feasibility study**

The National Department of Environment, Forestry and Fisheries managed to source funding 2019/2020 from the Green Climate Fund (administered by DBSA) to conduct a Full Feasibility Study. As a result, the study was initiated from February 2020 and the following exercises were conducted:

- Waste Characterization;
- Social and Gender Impact Assessment; and
- Marketing Analysis and Institutional Implementation Protocol.

**2.10.6. FINANCE**

The main challenge is that there are areas whereby rates and tariffs cannot be imposed especially in rural areas while waste services are being rendered to these communities. This situation affects the financial status of the municipality as well as effective service delivery.

**SECTION 3****3. TRENDS AND FORECASTS**

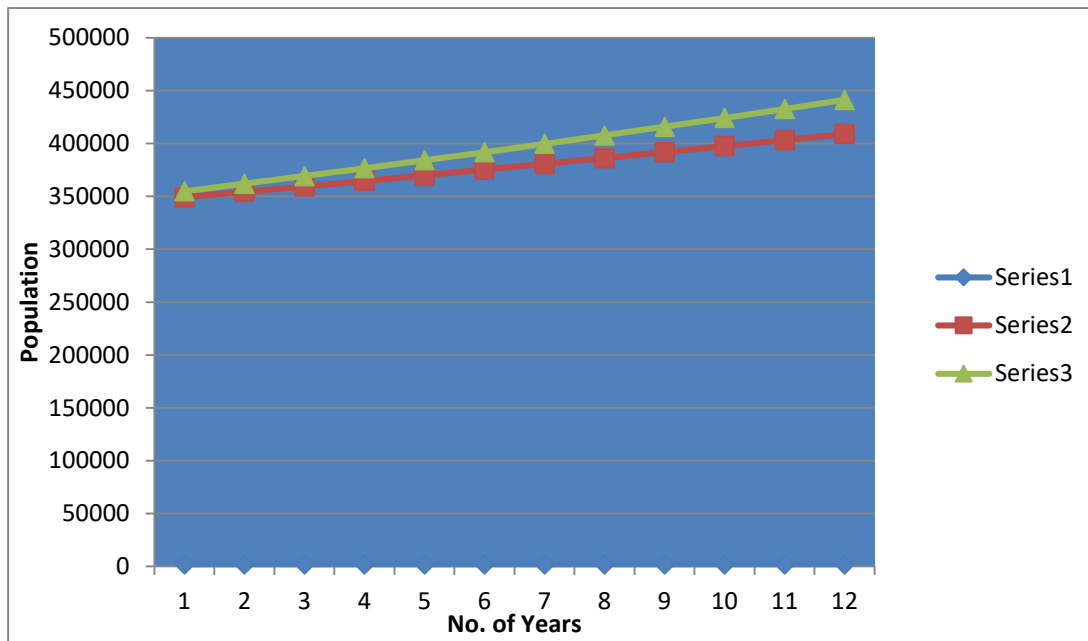
Informed decisions and effective planning are based on sound data and inputs. The following demographic, social and economic data; and waste generation were taken into consideration.

**3.1. POPULATION PROJECTIONS**

The population within the City of uMhlathuze Municipality was 334 459 according to 2011 population census with a growth rate of 1.45%. Assuming a closed population, a growth of 1.45% per annum will be assumed. Another range of projections assuming a population growth of 2.0% per annum will be generated assuming that at the rate of growth of the City of uMhlathuze, many people will be seeking work in this area.

**Table 3.1 The Population Projections**

Growth Rate	2011	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1.45%	334459	349218	354281	359418	364630	369917	375281	380722	386243	391846	397527	403291	409139
2.0%	334459	354930	362029	369269	376654	384187	391870	399709	407703	415857	424174	432657	441312



Graph 3.1

### 3.2. ECONOMIC GROWTH

According to the latest indicators, the seasonally adjusted estimate of the real GDP at market prices for the last two quarters in 2014 were 0.5%(adjusted from 0.6%) and in the second quarter and 1.45% in the third quarter for South Africa as a whole. The negative growth rates translate into a decrease in waste generation growth rate, and the positive growth rates translate into an increase in waste generation growth rate. Hence, the trend of the 2014 indicators could indicate increase in the waste generation growth rate for South Africa. However, the increase of the population of higher income groups could also result in an increase of waste generation growth rate. The general trend is for waste generation to increase with a dramatic economic growth or increase in household income. However, there is no direct correlation as many variables could occur.

For uMhlathuze local municipality, in terms of average household income; in 2001 the average was R59 479, 00 as compared to R121 177, 00 in 2011.(2001 and 2011 population census, Statistics South Africa)This trend in household income points to increase in waste generation growth rate and hence the focus on waste disposal ,waste minimisation and recycling.

### 3.3. WASTE GENERATED IN 2021

The waste generation figures in 2021 are given in the tables below per month and per day. The table below indicates the volume of the waste generated for the City of uMhlathuze Municipality in 2021 by type of Waste per month.

**Table 3.3 Waste generated for the City of uMhlathuze in 2021**

MONTH	TOTAL MONTHLY TONNAGES IN KG	AVERAGE TONS PER DAY
January	3 727 780	120,3
February	3 780 120	135,0
March	4 221 940	136,2
April	3 473 840	115,8
May	8 701 940	280,7
June	4 036 080	134,5
July	3 094 020	99,8
August	4 035 300	130,2
September	3 698 100	123,3
October	4 249 960	137,1
November	4 102 840	136,8
December	4 661 240	150,4
<b>TOTAL</b>	<b>51 783 160</b>	<b>1 700.1</b>

### 3.4. WASTE GENERATION FORECASTS ESTIMATES

Waste generation growth estimates should take into consideration the economic growth, population wealth as well as the population growth rate. Hence, a zero population size increase but a fast growing economy will result in a waste generation growth and vice versa.

The estimated waste generation models will give a prediction until the year 2025. Record keeping of tonnages of waste being disposed of at the King Cetshwayo Regional landfill is done, as it is equipped with weighbridge to record accurate records of waste collected and disposed of.

According to the records, the amount of waste generated within the municipal area in 2020 is 46 081 857kg. This includes all types of waste as in table 3.3 Hence the average amount generated per month in 2020 was 3 840 155 kg .The average waste generated per day was 126 667 per day. Hence, the average waste generated per person per day in 2020 is 0.39 kg.

The growth rate used was applied using per Capita Waste Generation Figures as defined in the Minimum Requirements Documents.

**Table 3.4. (a) Estimated Waste Generation for City of uMhlathuze Municipality according to Population Growth Rate of 1.45% per year.**

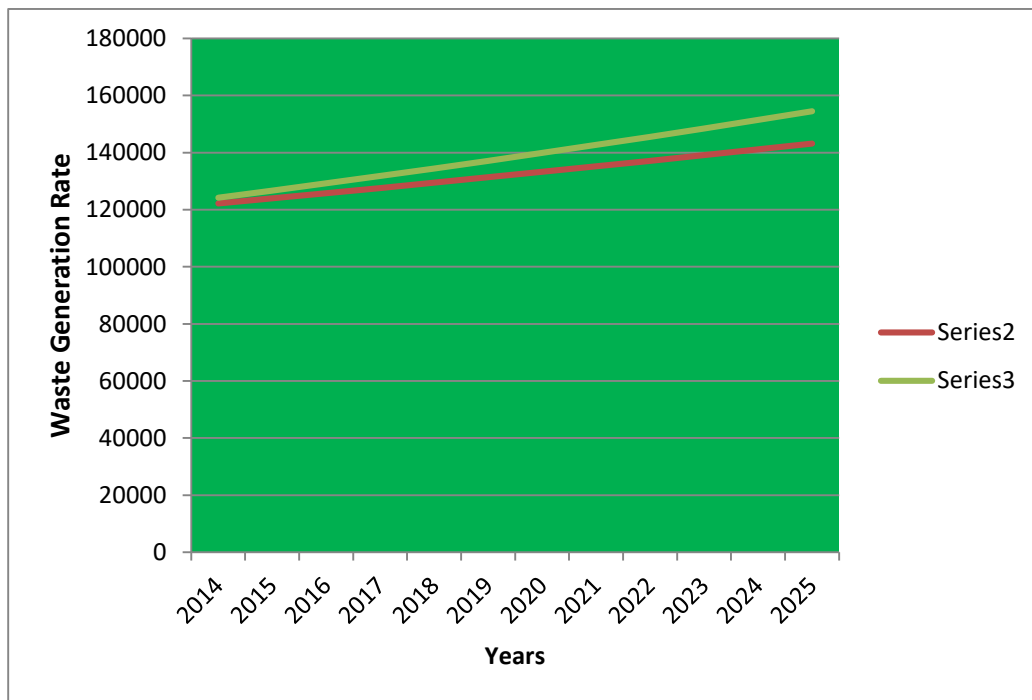
Waste Generation Rate per day in kgs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0.35	120913	123998	125796	127621	129471	131348	133253	135185	137146	139134	141152	143199



Forecast of Waste generated per year in tons	43529	45259	45916	46582	472569	47942	48637	49342	50058	50784	51520	52268
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**Table 3.4(b) Estimated Waste Generation for City of uMhlatuze Municipality according to Population Growth Rate of 2% per year.**

Waste Generation Rate per day in kgs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0.35	120913	1242255	126710	131828	134465	137154	139898	142696	145550	148461	151430	154459
Forecast of Waste generated per year in tons	43529	45342	46249	48117	49078	50061	51062	52084	53126	54188	55308	56377



**Graph 3.4**

Assuming a population growth rate of 1.45%, the projected annual waste generation in 2025 will be 52 268 tons. Assuming a higher population growth rate of 2%, the projected annual waste generation in 2025 will be 56 377 tons. Gaps and needs will be analysed in the next chapter to improve the systems and infrastructure of Waste Management to meet the demand in order to fulfil the service delivery obligations of the Municipality as far as Waste Management is concerned.

## SECTION 4

## 4. GAPS, NEEDS AND RECOMMENDATIONS WITH ALTERNATIVES

Table 4.1 Gaps, Needs and Recommendations with Alternatives

GAPS AND NEEDS				
No	ISSUE	GAPS AND NEEDS	RECOMMENDATIONS/ALTERNATIVES	TIMEFRAME
1	By laws	<ul style="list-style-type: none"> <li>Illegal dumping by-laws to be re-enforced</li> <li>Other By-laws out-dated</li> </ul>	<ul style="list-style-type: none"> <li>Re-enforcement of Illegal dumping by-laws and to add new illegal dumping fines as per waste type</li> <li>Review out-dated by-laws and be approved</li> </ul>	2022/2023
2	Human Resource	<ul style="list-style-type: none"> <li>The Waste Management section needs to employ the following personnel for effective management:</li> <li>Employ Administrator</li> <li>Employ staff for Waste Compliance and Kerb Recycling</li> <li>Additional 29 General Workers</li> <li>Employ 8 Operators</li> </ul>	<p>Recommendation to recruit needed staff</p> <ul style="list-style-type: none"> <li>Employ Administrator</li> <li>Employ at least 8 Operators and 29 general workers for refuse trucks and litter picking</li> <li>Put in place an additional work shift to focus on areas which are congested during the day e.g. Taxi ranks</li> <li>Devise a system, which will cater for eradication of backlog, particular in rural areas.</li> <li>Consider extending the service in rural areas, using permanent illegal dump staff and CWP</li> </ul>	<p>2022/2023</p> <p>To</p> <p>2024/2025</p>
3	Finance	<ul style="list-style-type: none"> <li>The percentage of residents who pay rates is very low and some residents are in areas, which are not supposed to pay rates.</li> <li>This is affecting financial situation of Waste Management.</li> </ul>	<ul style="list-style-type: none"> <li>The City of uMhlathuze Municipality could review the tariff rates</li> <li>Financial controls should be put in place</li> <li>Businesses, schools, government buildings should pay for services.</li> <li>Semi – Rural and Rural communities who can afford service be billed.</li> <li>Council investigates the proper and affordable system for charging for refuse in rural areas, in general, specifically those who do not fall under indigent.</li> </ul>	<p>2022/2023</p> <p>To</p> <p>2025/2026</p>
5	Waste collection	<ul style="list-style-type: none"> <li>Not enough fleet</li> </ul>	<ul style="list-style-type: none"> <li>2021/22 – 4 x refuse removal</li> </ul>	2021/2022

	and service delivery	<ul style="list-style-type: none"> <li>No coordinates to identify where some Skips are located</li> </ul>	trucks (Replacement) <ul style="list-style-type: none"> <li>2022/23 – 2x refuse trucks, 1 x skip loader truck and 1 x Grab truck ( Replacement)</li> </ul>	To 2022/2023
6	Waste minimisation and recycling	<ul style="list-style-type: none"> <li>Lack of education and awareness</li> <li>Need for more accessible small scale recycling centres</li> <li>Reduce waste in order to reduce green gases</li> <li>Coordination between waste management, environmental and renewable energy in terms of integrated strategic plans</li> </ul>	<ul style="list-style-type: none"> <li>More education and campaigns about kerb recycling through workshops, ward committees and schools through Municipal Cleaning and Greening participants from National Department of Environmental Affairs</li> <li>Open more centres for drop offs and recycling centres</li> <li>Apply climate change strategies</li> <li>Waste minimisation campaigns and strategies to address climate change</li> <li>Integrated strategic planning</li> <li>Engage in a study looking at alternative treatment of waste, rather than landfilling</li> <li>It be noted that the second phase of the feasibility study will be started again and German Government through Department of Environmental Affairs has funded it.</li> <li>Once study is finalized, it will then be tabled to Council and be used as an annexure to IWMP.</li> </ul>	2022/2023  To  2025/2026
7	Waste Management awareness campaigns	<ul style="list-style-type: none"> <li>Lack of awareness campaigns on waste management issues</li> </ul>	<ul style="list-style-type: none"> <li>Educate communities through ward committees</li> </ul>	2022/2023
8	Illegal dumping	<ul style="list-style-type: none"> <li>Illegal dumping is reported to happen in various areas both in urban and rural areas and it is one of the greatest concerns</li> </ul>	<ul style="list-style-type: none"> <li>By law on illegal dumping</li> <li>Education and campaigns</li> <li>Toll free number where community can report illegal dumping</li> <li>Engage scouts/peace officers to reinforce the law on illegal dumping</li> <li>Apply Council reward system policy where a person is given a reward by taking a photo and reporting illegal dumping</li> <li>Install a 24 hour camera to monitor illegal dumping</li> <li>There should be a section for illegal dumping</li> <li>Council forms a team that will</li> </ul>	2022/2023  To  2025/2026

			focus on illegal dumping.	
No	ISSUE	GAPS AND NEEDS	RECOMMENDATIONS/ALTERNATIVES	
9	Management of landfills	<ul style="list-style-type: none"> <li>The Regional Landfill does not have its own equipment but depends on hiring.</li> <li>It has poor compaction rate so space is reduced drastically</li> <li>It does not cater for hazardous waste and Health Care Risk Waste</li> <li>Old Alton landfill was not properly closed. Procedures and processes were not followed.</li> </ul>	<ul style="list-style-type: none"> <li>It is recommended that King Cetshwayo should hire or buy equipment</li> <li>A landfill which caters for Health Care Risk Waste and hazardous waste should be put in place</li> <li>A proper landfill closure to be conducted to avoid dangerous gas emissions.</li> </ul>	District Municipality
10	Waste information system	<ul style="list-style-type: none"> <li>To update and maintain the Waste Information System</li> </ul>	<ul style="list-style-type: none"> <li>Continuously to update with new technology</li> <li>To continuously train the staff maintaining the Waste Information system.</li> </ul>	Ongoing
11	Rural area waste	<ul style="list-style-type: none"> <li>More skips in rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Three refuse trucks will be allocated to communal skips management- to accommodate rural areas.</li> <li>Purchase skip loaders and skip trailers</li> </ul>	2023/2024 To 2025/2026
12	Informal settlement waste	<ul style="list-style-type: none"> <li>Some informal settlement do not have skips</li> </ul>	<ul style="list-style-type: none"> <li>The Waste Management section should budget for more skips</li> </ul>	2022/2023 To 2025/2026
13	Building Rubbles	<ul style="list-style-type: none"> <li>Most rubbles in townships and informal settlements are illegally dumped</li> </ul>	<ul style="list-style-type: none"> <li>By –law should be put in place for builders to reduce illegal dumping</li> </ul>	2022/2023 To 2023/2024
14	Industrial Waste	<ul style="list-style-type: none"> <li>Some industries are not recycling sufficiently</li> </ul>	<ul style="list-style-type: none"> <li>Industries should be motivated further on recycling and Data be recorded per industry and be submitted to designated Waste Officer</li> </ul>	2022/2023 To 2025/2026
15	Garden waste	<ul style="list-style-type: none"> <li>Some garden waste are illegally dumped</li> </ul>	<ul style="list-style-type: none"> <li>Different measures according to type of settlement should be put in place to minimize illegal dumping and minimize garden waste.</li> </ul>	2022/2023 To 2024/2024
16	Fleet	<ul style="list-style-type: none"> <li>Poor Maintenance of vehicles</li> <li>No mitigation plans if vehicles breakdown</li> <li>Not enough vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Waste Management section should own their vehicles and monitor their service</li> <li>Waste Management section</li> </ul>	2022/2023  To

			<p>should be in a position to hire a vehicle in case of a breakage of its vehicle.</p> <ul style="list-style-type: none"> <li>To buy 6 trucks; 1 TLB loader and 2 Transporter with a Minibus as a better recommendation</li> </ul>	2025/2026
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## 5. GOALS AND OBJECTIVES

One of the key challenges of the City of uMhlathuze Municipality is limited access to basic household community services, which include waste removal, water, electricity, sanitation and social amenities. These were the services identified by communities according to 2018/2019 IDP.

One of the long-term visions of the Municipality is to improve quality of Citizens' health and commitment to sustainable environment. Efficient and effective waste management plays a big part in the success of those two long-term visions.

These visions are realigned with the Millennium Development Goals which is Environmental sustainability, the national outcomes of Environmental sustainability and Safe and Healthy living environment.

These visions are also realigned with the provincial key priorities, which are Health and Environmental Protection. While also identified in Back to Basics Programme.

In line with the gaps and needs identified, Goals and Objectives will be structured according to government's strategy of waste minimisation. The official hierarchy adopted by international body on Waste Management Strategy is as follows:

GOALS AND OBJECTIVES		
Cleaner Production	Prevention	
	Minimisation	
Recycling	Re-use	
	Recovery	
	Composting	
Treatment	Physical	
	Chemical	
	Destruction	
Disposal	Landfill	

#### **5.1. DISPOSAL INFRASTRUCTURE DEVELOPMENT**

New infrastructure was identified and needed legalisation.

#### **5.2. WASTE COLLECTION INFRASTRUCTURE**

Shortage of fleet, skips in rural areas, recycling centres, transfer stations and receptacle placement were identified. Improvement in managing the Regional Landfill was also discussed. Any needed changes in route planning were also identified.

#### **5.3. INSTITUTIONAL CAPACITY AND HUMAN RESOURCE**

The improvement of the IWMP organisation structure was discussed and alternative improvements were identified.

#### **5.4. FINANCIAL RESOURCES**

Any financial requirements were identified and some alternatives for funding.

#### **5.5. DISSEMINATION OF INFORMATION**

The improvements of the Waste Information System and Record keeping were identified

#### **5.6. ILLEGAL ACTIVITIES**

This involves identification of illegal dumping sites, penalties, various interventions to address illegal dumping, timely clean up and campaigns on education on illegal dumping. The need for the By-Law on illegal dumping was realised

#### **5.7. WASTE MINIMISATION**

This involves identifying waste minimisation strategies e.g. recycling, setting up collection points, decomposition and awareness and education campaigns. To re-align the IWMP with Climate Change Strategy.

This City of uMhlathuze is currently doing a feasibility study on Alternative Treatment of Waste, as part of Waste Diversion of Waste away from Landfill site.

The preliminary report is already available and the second phase of the study was initiate in 2020. This should give clear way forward and time frames in terms of waste minimisation.

Budget for implementation of the plan will be reflected in a report, which once submitted by Service Provider will then be tabled to Council.

**5.8. THE GOALS AND OBJECTIVES ARE AS FOLLOWS:**

<b>DEVELOPMENT DISPOSAL INFRASTRUCTURE</b>
<b>GOAL</b>
Develop and improve infrastructure realigned to municipal needs and compliance with legislation
<b>OBJECTIVES</b>
<ul style="list-style-type: none"> <li>To improve service delivery</li> </ul>

<b>WASTE COLLECTION INFRASTRUCTURE</b>
<b>GOAL</b>
To effectively manage Waste collection
<b>OBJECTIVES</b>
<ul style="list-style-type: none"> <li>To extend services to rural areas</li> <li>To effectively maintain the fleet and replace old ones</li> <li>To standardise Collection</li> </ul>

<b>INSTITUTIONAL CAPACITY AND HUMAN RESOURCE</b>
<b>GOAL</b>
To effectively and efficiently provide quality Waste Management Services
<ul style="list-style-type: none"> <li>To recruit General Workers for trucks</li> <li>To recruit Administration officer</li> </ul>

<b>FINANCIAL RESOURCES</b>
<b>GOAL</b>
Provide cost effective but quality waste management services
<b>OBJECTIVES</b>
<ul style="list-style-type: none"> <li>To ensure that current tariff standards take into account the current financial situation of the municipality</li> <li>To improve payment of Service tariffs</li> <li>To source for funding in order to cover all rural areas</li> </ul>

<b>WASTE MINIMISATION</b>
<b>GOAL</b>
To decrease waste deposited on landfills and collected in skips and transfer stations
<b>OBJECTIVES</b>

- To educate communities on recycling and waste minimization
- To facilitate recycling activities
- To support companies which are starting recycling businesses especially the youth
- To develop garden refuse strategy
- To reduce waste in order to address Climate Change

## DISSEMINATION OF INFORMATION AND COMMUNICATION

### GOAL

Effective information sharing and educated community on issues of Waste Management

### OBJECTIVES

- To effectively maintain of a comprehensive electronic Waste Management system (King Cetshwayo District manages the Waste Information System)
- To improve information sharing for effective informed decision making
- To keep comprehensive records
- To improve community awareness and Education
- To participate in International, national, provincial and Inter municipal Waste Information Workshops

## MANAGEMENT OF ILLEGAL ACTIVITIES

### GOAL

To prevent illegal activities

### OBJECTIVE

- To develop illegal waste management strategy
- To incorporate a section for illegal dumping in Waste Management structure.
- To revise and implement municipal by-laws to address issues of illegal waste depositing
- To Improve removal of illegal dumped waste
- To develop By law on illegal dumping
- To set up education and awareness campaigns through various channels
- To set up Toll free number where community can report illegal dumping
- To engage scouts/peace officers to reinforce the law on illegal dumping
- To apply Council reward system policy where a person is given a reward by taking a photo and reporting illegal dumping
- To Install a 24 hour camera to monitor illegal dumping



## SECTION 6

## 6. IMPLEMENTATION PLAN

6.1. IMPLEMENTATION PLAN: REPORTING ON ACHIEVEMENTS AS PER 5<sup>RD</sup> IWMP REVIEW 2022/2023

TABLE 6.1 IMPLEMENTATION PLAN AND BUDGET FOR: 2015/2016; 2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021,

FOCUS AREA	GOAL	OBJECTIVES	ACTIONS/ACTIVITIES	TARGETS	SHORT TERM ACHIEVEMENTS 2018/2019/2020/2021/2022					MIDTERM GOALS 2021/2025	LONG TERM 2026/2030 GOALS
					1 <sup>ST</sup> IWMP REVIEW 2018	2 <sup>ND</sup> IWMP REVIEW 2019	3 <sup>RD</sup> IWMP REVIEW 2020	4 <sup>TH</sup> IWMP REVIEW 2021	5 <sup>TH</sup> IWMP REVIEW 2022		
Transfer stations	Develop and improve infrastructure realigned to municipal needs and compliance with Legislation	To improve service delivery	To identify land for a transfer station in Ngwelezane Wards	Extension of service delivery to at least 80% of residents by 2024	Ngwelezane Material Recovery Facility site is still not available; Council is looking at Department of Public Works land to build.	Ngwelezane Material Recovery Facility site is still not available.	Ngwelezane Material Recovery Facility site is still not available	Establishment of Ngwelezane/ Empangeni Material Recovery Facility to be prioritised in 2023/2024	Establishment of Ngwelezane/ Empangeni Material Recovery Facility to be prioritised in 2024	Assess operation of transfer stations and Upgrade where necessary	Assess operation of transfer stations and Upgrade where necessary
			To identify land for a transfer station in Esikhaleni Wards		Esikhaleni Material Recovery facility will not be built at this stage due to lack of land. Alton will be used.	Esikhaleni Material Recovery facility will not be built at this stage due to lack of land.	Esikhaleni Material Recovery Facility site is still not available	Establishment of Esikhaleni/ Dlangezwa Material Recovery Facility to be prioritised in 2024/2025	Establishment of Esikhaleni/ Dlangezwa Material Recovery Facility to be prioritised in 2024/2025	Assess operation of transfer stations and Upgrade where necessary	Assess operation of transfer stations and Upgrade where necessary

			To establish one transfer station in Mzingazi Agri-Village		Mzingazi Material Recovery Facility has been established and is operating.  It assists towards diversion of waste away from landfill site, while at the same time provides for economic empowerment.	Installation of small shelter by June 2020	Installation of shelter by June 2020	Installation of shelter was not done instead paving will be done first by June 2021 and shelter will be installed by June 2022	Completed	Assess operation of transfer stations and Upgrade where necessary	Assess operation of transfer stations and Upgrade where necessary
			To establish transfer station in EeNseleni for recycling in Ward 5,6,7,and 8		eENseleni Material Recovery Facility has been established and is operating.  It assists towards diversion of waste away from landfill site, while at the same time provides for	Installation of shelter and ramp by June 2020	Installation of shelter and ramp by June 2020	Installation of shelter and ramp could not be done by June 2020, designs were completed instead.  Shelter and ramp to be installed by June 2022	In Progress	Assess operation of transfer stations and Upgrade where necessary	Assess operation of transfer stations and Upgrade where necessary

					economic empowerment.						
			Alton Transfer station capping in Ward 26		Alton Material Recovery Facility has been established and is operating.  It assists towards diversion of waste away from landfill site, while at the same time provides for economic empowerment. This site has officially been closed as landfill site, but operating as both transfer station and material recovery facility.	Alton Material Recovery Facility has been established and is operating.  It assists towards diversion of waste away from landfill site, while at the same time provides for economic empowerment. This site has officially been closed as landfill site, but operating as both transfer station and material recovery facility.	Alton Material Recovery Facility will be upgraded to accommodate composting facilities, including a new security guard house	Alton Material Recovery Facility Phase 1 upgrade to be initiated by 2023/2024	Alton Material Recovery Facility Phase 1 upgrade to be initiated by 2023/2024	Assess operation of Alton transfer station and Upgrade where necessary	Assess operation of Alton transfer station and Upgrade where necessary
Extension of waste collection in rural areas	To effectively manage Waste collection	To extend services to rural areas	To buy 33 skips for all Wards	To extend waste collection in all rural areas	The percentage was sitting at 82% for	More than 20 skips to be purchased by 30 June 2019	More than 20 skips purchased by 30 June 2020	More than 20 skips to be purchased by 30 June 2021	More than 25 new skips to be purchased by 30 June 2023	Assess operational needs and new	Reassess the waste collection strategy and

		To effectively maintain the fleet and replace old ones  To standardise Collection		by 100% by 2020	City of uMhlathuze Municipality , but taking over of Ntambanan a has dropped the number of those with access to 68%. Section still has to work hard and provide resources to decrease backlog.					developments and purchase more skips	develop new strategies to improve service while taking into consideration population growth, climate change etc.
			To buy 2 skip loader and 3 skip trailers		1 Skip Loader purchased and operating	Skip Loader to be prioritised in 2020/2021 budget	1 Skip Loader and 1 skip trailer to be prioritised in 2020/2021	1 Skip loader to be purchased for years from 2021/2022  Skip trailer to be prioritised in 2023/24.	Skip trailer to be prioritised in 2023/24.	Assess operational needs and new developments and purchase more skips	Assess operational needs and new developments and purchase more skips
			To buy refuse trucks for all wards  To buy 6 trucks  To buy 1 transporter		4 Rot press Trucks purchased and operating	6 Compactor Refuse truck to be procured and will be delivered by December 2019.  2 transporters procured and will be delivered by	2 compactor trucks to be prioritised in 2020/2021.	5 compactor trucks to be purchased in 2021/2022  14 seater kombi to be prioritised by 2024/25		Assess operational needs and new developments and purchase more skips	Assess operational needs and new developments and purchase more skips

						June 2019.					
Personnel	To effectively and efficiently provide quality Waste Management Services	To address human resource needs	<p>To recruit 83 general workers over 3 years</p> <p>To recruit one Administrative officer</p> <p>To recruit one safety officer</p> <p>To place an additional work shift to focus on areas which are congested during the day e.g. Taxi ranks</p>	<p>To recruit 100% of all recommended personnel by 2016/17</p>	<p>15 posts have been approved, but these are not funded at this stage.</p> <p>Still not finalised, working on the matter.</p>	<p>83 posts have been approved, but these are not funded at this stage.</p> <p>Still not finalised, working on the matter.</p>	<p>53 posts approved, funded and to be filled by June 2020</p> <p>Night shift approved and implemented from 2018/2019 and is ongoing</p>	<p>53 posts were filled by June 2020</p>	<p>Night shift approved and implemented from 2018/2019 and is ongoing</p>	<p>Continuously evaluate human resource needs as compared to new methods of waste management</p>	<p>Continuously evaluate human resource needs as compared to new methods of waste management</p>
			<p>To recruit one Marketing officer for education and awareness campaigns on waste management</p>		<p>Waste Management Officer does marketing of the section.</p> <p>Post is filled and officer working.</p>	<p>Waste Management Officer does marketing of the section.</p> <p>Post is filled and officer working.</p>	<p>Waste Management Officer does marketing of the section.</p> <p>Post is filled and officer working.</p>	<p>Waste Management Officer does marketing of the section.</p> <p>Post is filled and officer working.</p>	<p>Waste Management Officer does marketing of the section.</p> <p>Post is filled and officer working.</p>	<p>Continuous training on waste management issues</p>	<p>Continuous training on waste management issues</p>
			<p>To train staff to ensure knowledge of current waste management legislation and current approaches to waste management</p>		<p>Training is on-going, particular EPWP.</p>	<p>Training of waste collection employees on Customer Care was conducted in 2018.</p>	<p>Training on Waste Management Act amendments has been requested awaiting approval.</p>	<p>Training on Waste Management Act amendments has been requested awaiting</p>	<p>Tariffs for Waste Management are reviewed every year, together with budgeting process.</p>		

								approval.			
Sound budgeting and financial management for waste management	Provide cost effective but quality waste management services	To ensure that current tariff standards take into account the current financial situation of the municipality  To improve payment of Service tariffs  To ensure that waste services are sustainably financed	Cost effective tariffs to be implemented  Putting in place measures to ensure that all households pay their rates as required  Full cost accounting for waste services  Ensure that financial policies are adhered too  Ensure that Waste Management addresses all Audit queries	To ensure that at least 90% of the budget is catered for and to achieve 100% clean audits	Tariffs for Waste Management are reviewed every year, together with budgeting process.  More work still needs to be done in terms of costing for refuse removal service.	Tariffs for Waste Management are reviewed every year, together with budgeting process.  More work still needs to be done in terms of costing for refuse removal service.	Tariffs for Waste Management are reviewed every year, together with budgeting process.  More work still needs to be done in terms of costing for refuse removal service.	Tariffs for Waste Management are reviewed every year, together with budgeting process.  More work still needs to be done in terms of costing for refuse removal service.		Continuous evaluation of financial resources and current Municipal Financial Policies	Continuous evaluation of financial resources and current Municipal Financial Policies
Maintenance of a comprehensive electronic Waste Information System	Effective information sharing and educated community on issues of Waste Management	To effectively maintain of a comprehensive electronic Waste Management system (King Cetshwayo District manages the Waste Information System).	To update Waste Information System  To organise educational workshops and campaign awareness  To attend training workshops on Waste Management and Climate change  Training of at least two employees on Waste Information system		Waste Information system is updated by District Municipality, which owns the landfill site.  This is on-going.	Waste Information system is updated by District Municipality, which owns the landfill site.  This is on-going.	Waste Information system is updated by District Municipality, which owns the landfill site.  This is on-going.	Waste Information system is updated by District Municipality, which owns the landfill site.  This is on-going.	Waste Information system is updated by District Municipality, which owns the landfill site.  This is on going.	Accessible, Effective and updated record keeping as per current technologies	Accessible, Effective and updated record keeping as per current technologies

Curb drastically illegal Waste activities in all types of settlements	To prevent illegal activities	To Improve removal of illegal dumped waste	Conduct Customer perspective survey on illegal dumping and Develop Illegal Waste Management Strategy	The target is 100% legal dumping in all types of settlement by 2021.	Eradication of Illegal Dumping Plan has been approved by Council and is being implemented.  Each role player had his/her role clarified.	Eradication of Illegal Dumping Plan has been approved by Council and is being implemented.  Each role player had his/her role clarified.	Eradication of Illegal Dumping Plan is being implemented.  Each role player had his/her role clarified.	Eradication of Illegal Dumping Plan is being implemented.  Each role player performing his/her duties.	Illegal Dumping Plan is being implemented.  Each role player performing his/her duties.	Continuous compliance as required	Reassess and develop new strategic plan for curbing illegal waste
			More signage required for illegal dumping areas		Signs are being procured and placed on sites. More signs to be procured.	More signs to be procured by June 2019.	A sufficient number of signs were installed in illegal dumping hot spots.	A sufficient number of signs have been installed in illegal dumping hot spots.	signs have been installed in illegal dumping hot spots.		

			To revise and implement municipal by-laws to address issues of illegal waste depositing		Bylaw has been reviewed, awaiting approval.	Bylaw has been reviewed, awaiting approval.	Bylaw has been reviewed, including addition of new illegal dumping fines, is awaiting approval.	Bylaw has been reviewed, including addition of new illegal dumping fines, is awaiting approval.	Bylaw has been reviewed, including addition of new illegal dumping fines, is awaiting approval.		
			To set up education and awareness campaigns through various channels		Campaigns are already taking place. Clean up campaigns conducted in communities in partnership with National Department of Environmental Affairs.	Campaigns are already taking place. Clean up campaigns conducted in communities in partnership with National Department of Environmental Affairs.	Campaigns are already taking place. Clean up campaigns are conducted in communities in partnership with different stakeholders.	Continuous campaigns in a form of awareness and clean up campaigns are conducted in communities in partnership with different stakeholders.	awareness and clean up campaigns are conducted in communities in partnership with different stakeholders		
			To set up Toll free number where community can report illegal dumping  To engage at least 50 scouts/peace officers to reinforce the law on illegal dumping		Council toll free number and whistle blower numbers are used to report dumping. This is yielding good results already.  Two peace Officers within the Section have been trained, over and above Law Enforcement Officers.	Council toll free number and whistle blower numbers are used to report dumping. This is yielding good results already.  Two peace Officers within the Section have been trained, over and above Law Enforcement Officers.	Council toll free number and law enforcement numbers are used to report dumping. This is yielding good results.  Two peace Officers within the Section have been trained, over and above Law Enforcement Officers.	Council toll free number and law enforcement numbers are used to report dumping. This is yielding good results.	Council toll free number and law enforcement numbers are used to report dumping. This is yielding good result		
			To apply Council reward system policy		This is still under investigation.	This is still under investigation.	This is still under investigation.	This is still under	This is still		



			where a person is given a reward by taking a photo and reporting illegal dumping					investigation.	under investigation.		
			To Install a 24 hour camera to monitor illegal dumping		Monitors are still being considered.	Monitors are still being considered.	Monitors are still being considered.	Monitors are still being considered.	Monitors are still being considered.		
To reinforce a Waste Minimisation Strategy while creating jobs especially for the youths	To decrease waste deposited on landfills and collected in skips and transfer stations	To review Waste Management Strategy  To educate communities on recycling and waste minimization  To set an enabling environment for small companies which needs to start recycling companies	To review Waste Management Strategy	20% reduction of domestic and commercial waste streams disposed to Regional Landfill by 2020.	Council is currently recycling 22% of total waste generated.	Council is currently recycling 28% of total waste generated. New Kerb Recycling projects were initiated and were linked to local waste-preneurs.	To review Waste Management Strategy by June 2020  Council is recycling approximately 28% of total waste generated. Some Kerb Recycling projects are linked to local waste-preneurs.	To review Waste Management Strategy by June 2021  Council is recycling approximately 23% of total waste generated. More Kerb Recycling Projects to be initiated.  1 Recycling trucks to be purchased for 3 consecutive years from 2020/2021.	Management Strategy by June 2023  Council is recycling approximately 27% of total waste generated. More Kerb Recycling Projects to be initiated.	To enforce Waste Minimisation strategy and enforce by-laws	To review the Waste Minimisation strategy
		To realign IWMP with Climate Change strategy	To support companies which are starting recycling businesses especially the youths		A number of trainings have been carried out, but more still needs to be done due to high turnover of	More training still needs to be done due to high turnover of litter pickers.	Training to be conducted on business management for emerging waste-preneurs by 2020/2021.		Training to be conducted on business management for emerging waste-preneurs by 2022/2023.		

					litter pickers.						
			To develop garden refuse strategy		IWMP does talk to strategy	IWMP does talk to strategy	IWMP does talk to strategy	IWMP does talk to strategy	IWMP does talk to strategy		
			Developing and displaying public information boards, pamphlets ,flyers etc.		Section is currently working on this matter already, developing billboards and flyers.	Section has started installing billboards and still working on developing pamphlets and flyers.	Section has installed billboards and still working on developing pamphlets and flyers.	Section to install more billboards by 2021/2022.  Waste pamphlets developed and “No Litter” flyers to be designed.	Waste pamphlets developed and “No Litter” flyers to be designed.		
	Increase 10 compost facilities in rural areas		5000 Jobs to be created by 2020	This number is being reviewed and considered not being realistic.	This number is being reviewed and considered not being realistic.	This number is being reviewed and considered not being realistic.	This number is being reviewed and considered not being realistic.	This number is being reviewed and considered not being realistic.	This number is being reviewed and considered not being realistic.		
						Development of composting facilities to be linked to the Waste Flagship Project in the implementation phase. Currently feasibility study is conducted funded by DBSA through National Department of Environmental Affairs	Development of composting facilities to be linked to the Waste Flagship Project in the implementation phase.  Full feasibility study concluded awaiting final report and approval.	Development of composting facilities to be linked to the Waste Flagship Project in the implementation phase.  Full feasibility study concluded awaiting final report and approval.			
			To support SMMEs which starts reusing		This is considered to	This is considered to be a Local	This is considered to be	To Establish uMhlathuze	To develop uMhlathuze		

			recyclables to produce other marketable products e.g. mats, jewellery etc. especially through training needs		be a Local Economic development and therefore still looking at a proper system of implementation. National Department of Environmental Affairs is devising a plan on this.	Economic development and therefore still looking at a proper system of implementation. National Department of Environmental Affairs is devising a plan on this.	a Local Economic development and therefore still looking at a proper system of implementation. National Department of Environmental Affairs is devising a plan on this.	Waste Buyers Forum by 2021/2022	Recycling Plan 2022/2023  To establish Waste Pickers Forum 2022/2023  To Develop Green Economy and Procurement Plan/Strategy 2023/2024	To Develop Green Economy and Procurement Plan/Strategy 2023/2024  To Develop Sustainable Plan to align Tourism, LED and Recycling	To Develop reporting model on Value added by Recycling on Local Economic Development by 2025/2026/27
										2024/2005	

## **6.2. MONITORING AND EVALUATION OF THE IMPLEMENTATION PLAN**

### **6.2.1. AREAS TO MONITOR**

The goal of monitoring this plan is to effectively monitor and report on performance within the waste functions. Every goal in the implementation plan is realigned to activities/actions with SMART targets and timeframe. (Most of these are estimated; hence, they should be reassessed again).

Performance and development indicators should be developed during operational planning stage for the two divisions of Waste Management

The monitoring process should focus on short and long terms goals.

The areas to monitor could include:

- Finance-Budget allocations, Tariffs
- Human Resource-Vacancies and training needs
- Maintenance of fleet
- Legislation-amendments, new legislation ,by –laws
- Customer satisfaction through surveys
- Status of illegal dumping in terms of costs and reduction
- Waste minimisation programmes and projects
- Achieved targets
- Annual reports on collection reports
- Reports on reuse and recycling including employment records
- Registration and licencing of waste disposal facilities
- Auditing of waste disposal facilities
- Hazardous waste disposal
- Managing disposal facilities
- Education campaigns on Waste Management

### **6.2.2. EVALUATION AND REVIEW OF IWMP**

The IWMP should be reviewed on an on-going basis. The IWMP is realigned with the IDP; hence, its review process should be realigned with the IDP process.

According to the legislation, the IWMP should be reviewed every 5 years; however, some institutions including the City of uMhlatuze review it annually.

## **6.3. CONCLUSION**

Generally, the waste management process is an integrated process, which involves many stakeholders who include private households, different types of businesses, institutions and government officials.

Its costs are also very high considering the spectrum of customers serviced. Hence forming partnerships is necessary in order to share resources and start businesses which could reduce waste like recycling, obeying the law. Examples of obeying the law include the public not dumping illegally.

Secondly, the legal framework supports the IWMP. On top of the policy, the municipality needs to reinforce by-laws, which also allow punitive measures.

In case of uMhlathuze Local Municipality, considering the seriousness of illegal dumping, there is urgency to put in place this by-law. It should also be enforced by including prosecution in cases of non-compliance.

Thirdly, education and awareness campaigns about illegal dumping and littering need to be stepped up drastically. This education could start in all primary schools in the City of uMhlathuze and King Cetshwayo District Municipality at a very early age. Information transfer could also be applied e.g. display boards, local radio stations, local newspapers and flyers. Council rewards could also be applied and close monitoring of illegal dumping by 24 hour camera. Fourthly, the municipality should provide enabling environment through ensuring safety at the drop-off centres, call centre operated at 24/7 and providing clearly marked recycle bins for kerb side collection of separated material at source waste.

Roles and responsibilities of all relevant stakeholders should be clearly defined. These roles and responsibilities are directly based on the requirements of the Constitution, other relevant legislation and IWM policy. Since IWMP is an integrated strategy it should include a number of departments directly and indirectly connected to uMhlathuze waste department.