



MBHASHE LOCAL MUNICIPALITY

**DEVELOPMENT OF THE INTEGRATED
WASTE MANAGEMENT PLAN FOR
MBHASHE LOCAL MUNICIPALITY –
FINAL INTEGRATED WASTE
MANAGEMENT PLAN REPORT**

Review 2023

DOCUMENT CONTROL			
Document	Mbhashe Local Municipality - Integrated Waste Management Plan		
Date	May 2023		
Submitted to	Department of Economic Development and Environmental Affairs and Tourism Soft Copy		
Distribution	1		
QUALITY CONTROL			
	Prepared	Reviewed	Approved
Name and designation	Ms S Mboxo Community Services Manager		
Date	10/05/23		

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APPENDIXES

APPENDIX A – WASTE MANAGEMENT LICENSES

APPENDIX B – PROOF OF PUBLIC PARTICIPATION

LIST OF ABBREVIATIONS

DEFF	Department of the Environment, Forestry and fisheries
DWS	Department of Water and Sanitation
ECA	Environment Conservation Act, Act No. 73 of 1989
IDP	Integrated Development Plan
IWM	Integrated Waste Management
IWMP	Integrated Waste Management Plan
NEMA	National Environmental Management Act, Act No. 107 of 1998
NEMWA	National Environmental Management Waste Act, Act No. 59 of 2008.
NWMS	National Waste Management Strategy

GLOSSARY OF TERMS

Building and demolition waste means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition;

Business waste means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes;

A landfill working Cell refers to the volume of waste generally placed during one working day and covered on all horizontal surfaces by cover soil;

Communal Waste Disposal Site is the smallest waste disposal site classification with a capacity of less than 25 tonnes per day;

Composting is the controlled aerobic biological decomposition of organic matter, such as food scraps and plant matter, into humus, a soil-like material. Aerobic is the decomposition process in the presence of oxygen;

Constitution means the Constitution of the Republic of South Africa, 1996;

Container as referred to in this document means a disposable or re-usable vessel in which waste is placed for the purposes of storing, accumulating, handling, transporting, treating or disposing of that waste, and includes bins, bin-liners and skips;

Decommissioning in relation to waste treatment, waste transfer or waste disposal facilities, means the planning for and management and remediation of the closure of a facility that is in operation or that no longer operates;

Department as referred to in this document means the Department of Environmental Affairs;

Disposal as referred to in this document means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land;

Disposal Site Airspace or capacity is the total volume of space on a waste disposal site to be filled with waste and cover material;

Domestic waste means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes;

Environment as referred to in this document means the surroundings within which humans exist and that are made up of -

- (i) the land, water and atmosphere of the earth;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing;

Environment Conservation Act as referred to in this document means the Environment Conservation Act, 1989 (Act No, 73 of 1989);

Extended producer responsibility measures means measures that extend a person's financial or physical responsibility for a product to the post-consumer stage of the product, and includes -

- (a) waste minimisation programmes;
- (b) financial arrangements for any fund that has been established to promote the reduction, re-use, recycling and recovery of waste;
- (c) awareness programmes to inform the public of the impacts of waste emanating from the product on health and the environment; and
- (d) any other measures to reduce the potential impact of the product on health and the environment;

Garden Refuse means waste generated as a result of normal domestic gardening activities, including grass cuttings, leaves, plants, flowers and other similar small and light organic matter, but shall not include tree branches with a diameter thicker than 40 millimetres at any point of its length, domestic waste, bulky waste, construction and demolition waste or any waste generated as a result of commercial garden service activities; General Waste Collection Standards

Gazette, when used in relation to-

- (a) the Minister, means the *Government Gazette*; and
- (b) the MEC, means the *Provincial Gazette* of the province concerned;

General waste means waste that does not pose an immediate hazard or threat to health or to the environment, and includes—

- a) domestic waste;
- b) building and demolition waste;
- c) business waste: and
- d) inert waste;

Groundwater means all waters flowing or existing under the ground surface;

Hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment;

Incineration means any method, technique or process to convert waste to flue gases and residues by means of oxidation;

Industry includes commercial activities, commercial agricultural activities, mining activities and the operation of power stations;

Inert waste means waste that—

- a) does not undergo any significant physical, chemical or biological transformation after disposal;
- b) does not burn, react physically or chemically biodegrade or otherwise adversely affect any other matter or environment with which it may come into contact; and
- c) does not impact negatively on the environment, because of its pollutant content and because the toxicity of its leachate is insignificant;

Integrated Waste Management Plan¹ is a plan which has been compiled to provide the most cost-effective and technically and environmentally acceptable solutions to the total waste management in the municipality. It addresses the situation analysis, and offer solutions to ensure responsible waste management. As such it addresses waste generation, waste minimisation and re-use, collection of all waste, disposal infrastructure (disposal facility requirements) and disposal according to environmentally sound practises and within the

¹ ibid

requirements of relevant legislation and regulations. A plan prepared in terms of Section 12 of the National Environmental Management: Waste Act (Act 59 of 2008);

Licensing authority means an authority referred to in section 43 and that is responsible for implementing the licensing system provided for in Chapter 5;

Health Care Risk Waste means waste capable of producing any disease and includes but is not limited to the following:

- (a) laboratory waste;
- (b) pathological waste;
- (c) isolation waste;
- (d) genotoxic waste;
- (e) infectious liquids and infectious waste
- (f) sharps waste;
- (g) chemical waste; and
- (h) pharmaceutical waste;

MEC means the Member of the Executive Council of a province who is responsible for waste management in the province;

Minimisation when used in relation to waste, means the avoidance of the amount and toxicity of waste that is generated and, in the event where waste is generated, the reduction of the amount and toxicity of waste that is disposed of;

Minister as referred to in this document means the Minister of Environmental Affairs;

Municipality means a municipality established in terms of the Local Government: Municipal Structures Act, 1998 (Act No. 117 of 1998);

Municipal Systems Act means the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000);

National Environmental Management Act means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

Operating Plan consists of drawings, descriptions and other documents regarding the operation of the waste disposal site, placement of waste, building daily cells and lifts, leach

ate management, waste disposal gas management and all other functions related to the operation of the waste disposal site;

Operator is the person or organisation responsible for the operation of the waste disposal site. The operator may be the owner, another public agency or private contractor;

Owner is the person or organisation that owns the property and/or facilities that constitute the waste disposal site;

Pollution has the meaning assigned to it in section 1 of the National Environmental Management Act;

Reclamation is the unauthorised separation of solid waste for recyclable materials and food for human consumption;

Recycle means a process where waste is reclaimed for further use, which process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material;

Re-use means to utilise articles from the waste stream again for a similar or different purpose without changing the form or properties of the articles;

Site Feasibility is the initial step in the DEA permitting/licensing process that establishes the basic site features and general feasibility for a fully permitted/licensed waste disposal site;

Solid Waste is waste of a solid nature generated by a person, business or industry;

Sorting is the authorised separation of solid waste materials for the purpose of recycling or disposal, either at the source of generation or at a solid waste management facility;

Storage means the accumulation of waste in a manner that does not constitute treatment or disposal of that waste;

The Bureau means the Waste Management Bureau established by section 34A;

Treatment means any method, technique or process that is designed to-

- (a) change the physical, biological or chemical character or composition of a waste; or
- (b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or
- (c) destroy or reduce the toxicity of a waste,

in order to minimise the impact of the waste on the environment prior to further use or disposal;

Waste means—

(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or

(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette,

but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;

(ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered;

(iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

(iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste;

Waste disposal facility means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premise;

Waste management activity means any activity listed in Schedule 1 or published by notice in the Gazette under section 19, and includes—

- a) the importation and exportation of waste;
- b) the generation of waste, including the undertaking of any activity or process that is likely to result in the generation of waste;
- c) the accumulation and storage of waste;
- d) the collection and handling of waste;

- e) the reduction, re-use, recycling and recovery of waste;
- f) the trading in waste;
- g) the transportation of waste;
- h) the transfer of waste;
- i) the treatment of waste; and
- j) the disposal of waste;

Waste Management facility is a place, infrastructure, structure or containment of any kind, wherein, upon or at, a waste management activity takes place and includes a waste transfer station, container yard, landfill site, incinerators, lagoons, recycling and composting facilities;

Waste management licence means a licence issued in terms of Section 49;

Waste management officer means a waste management officer designated in terms of Section 10;

Waste management services means waste collection, treatment, recycling and disposal services;

Waste minimisation programme means a programme that is intended to promote the reduced generation and disposal of waste;

Waste transfer facility means a facility that is used to accumulate and temporarily store waste before it is transported to a recycling, treatment or waste disposal facility;

Waste treatment facility means any site that is used to accumulate waste for the purpose of storage, recovery, treatment, reprocessing, recycling or sorting of that waste.

1. INTRODUCTION

The development of an Integrated Waste Management Plan (IWMP) is a requirement for certain organs of state in terms of Section 11 of the National Environmental Management: Waste Act, 2008 (Act. 59 of 2008) (NEMWA) for government to properly plan and manage waste. The compilation of this IWMP was done in line with the “Guideline for the Development of Integrated Waste Management Plans (IWMP’s) (DEA, 2012) and in accordance with Section 12 of NEMWA.

The process followed in order to compile the IWMP consisted of two phases, the first consisting of a “Situation Analysis” and the determination of the “Desired End State” for waste management within the Municipal Jurisdiction, the second phase consisting of identifying, evaluating and selecting alternative methods/approaches for achieving the desired end state.

This report, the IWMP, is a concise report including the information collated in the two phases mentioned above and provides the Municipality with a plan on how to manage and improve the waste management service within the municipal area. The Municipality will be responsible for the implementation of the IWMP and the evaluating and reviewing of the plan to ensure that the respective objectives are being met.

2. LEGISLATIVE REQUIREMENTS

THE SOUTH AFRICAN CONSTITUTION, 1996 (ACT 108 OF 1996)

Section 24 of the Bill of rights of the Constitution of South Africa clearly states that everyone has the right to:

- (a) An environment that is not harmful to their health or well-being; and
- (b) Should have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - (i) prevent pollution and ecological degradation;

- (ii) Promote conservation; and
- (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Constitution places an emphasis on the need to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures i.e. IWMP. It is within this provision that IWMP's must strive or come up with measures to uphold the rights of all citizens within the jurisdiction of the Municipality and should enhance and promote environmental protection from any form of degradation as enshrined by the South African Constitution.

THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT: (ACT NO. 59 OF 2008)

Chapter 3, section 11 of the Waste Act requires that certain organs of state must develop Integrated Waste Management Plans (IWMPs). Section 12 of the Waste Act outlines what the contents of integrated waste management plans should be, whilst section 13 stipulates the reporting mechanisms on the implementation of IWMP's.

In terms of section 11 (4) (a) (ii) of the Waste Act, municipalities must incorporate the approved IWMP in their IDP's as called for by chapter 5 of Municipal Systems Act, 2000 (Act 32 of 2000) (hereinafter referred to as the "MSA"). The MSA Chapter 5, sections 23-37 deals with the process of developing Integrated Development Plans. Section 36 of the MSA states that, a Municipality must give effect to its IDP and conduct its affairs in a manner which is consistent with its IDP. This means that the development and implementation of the IWMP must be aligned with the IDP.

Some aspects of waste are managed by different pieces of legislation such as the National Water Act, (Act 36 of 1998); Hazardous Substances Act, (Act 15 of 1973); Advertising on Roads and Ribbon Development Act (Act 21 of 1940); and the National Health Act, 2003 (Act 61 of 2003).

Other applicable policies and standards including municipal by-laws are listed below which should be considered when developing an IWMP:

REGULATIONS IN TERMS OF THE WASTE ACT:

On 13 August 2012, the Minister of Water and Environmental Affairs, Ms Edna Molewa published under Section 69(1)(y), (aa) and (ee) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (Waste Act) the National Waste Information Regulations, 2012 in Gazette No. 35583 for implementation on 1 January 2013.

Any person who conducts activities which are listed in Annexure 1 of the Regulations needs to register on the South African Waste Information System at www.sawic.org.za. The purpose of the national waste information regulations, 2012 is to regulate the collection of data and information to fulfil the objectives of the South African Waste Information System (SAWIS) as set out in section 61 of the Waste Act. The Municipality should therefore comply with these regulations and follow the procedure and criteria to register on SAWIS (as required in Section 4 of the Regulations) and submit a quarterly report containing the information as prescribed in Annexure 2 of the Regulations, within 30 days of the end of a reporting period (as required in Section 7 of the Regulations).

Waste Classification and Management Regulations promulgated under the National Environmental Management: Waste Act, 2008 (NEM:WA) (effective 23 August 2013):

The Waste Classification and Management Regulations (WCMR) (developed in terms of section 69 of NEM:WA) will ultimately enable the improved and more efficient classification and management of waste. All wastes that were classified in terms of the "Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste in terms of the Department of Water Affairs" (2nd Edition, 1998; Department of Water Affairs and Forestry) or alternative classifications that were approved prior to the WCMR taking effect, must be re-classified and assessed within three years from the commencement of these Regulations.;

Norms and Standards for the Assessment of Waste for Landfill and the Norms and Standards for the Disposal of Waste to Landfill promulgated under the National Environmental Management: Waste Act, 2008 (NEM:WA) (effective 23 August 2013):

The Norms and Standards for the Assessment of Waste for Landfill Disposal and the Norms and Standards for Disposal of Waste to Landfill were also published for immediate implementation. The purpose of the Norms and Standards for the Assessment of Waste for Landfill Disposal are to outline the requirements for the assessment of waste prior to the disposal to landfill and to advise on the total concentration and the leachable concentration threshold limits. The Norms and Standards for Disposal of Waste to Landfill seek to determine the requirements for the disposal of waste to landfill. They stipulate the containment barriers for the different landfill types and list the barrier requirements that must be included in an application for waste management licence for a landfill site or cell;

NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE AMENDMENT ACT 26 OF 2014

The definition of waste was amended in the abovementioned Amendment Act as follows:

“waste” means-

- (a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or
- (b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette,

but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

- (i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;

where approval is not required, once a waste is, or has been re-used, recycled or recovered;

- (ii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

- (iii) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.

The above implies that residue deposits and residue stockpiles falls under the definition of Waste under NEMWA and activities which involves these waste streams needs to be licensed under NEMWA accordingly. The NEMWA licensing procedure will apply to these activities but the Minister of Mineral Resources is the licensing authority where a waste management activity involves residue deposits and residue stock piles on a prospecting, mining, exploration or production area;

The Waste Management Listed Activities were also amended as part of the abovementioned Act as follows:

Important Definitions	
Importance of definitions	Definitions determine the scope of application of the NEMWA and its subsequent Regulations.
Facility	<i>“a place, infrastructure, structure or containment of any kind including associated structures or infrastructure, wherein, upon or at, a waste management activity takes place and includes a waste transfer facility, a waste storage facility, container yard, waste disposal facility, incinerators, lagoons, recycling, co-processing or composting facilities”</i>
Lagoon	<i>“the containment of waste in excavations and includes evaporation dams, earth cells, sewage treatment facilities and sludge farms”</i>
Temporary storage	<i>“a once off storage of waste for a period not exceeding 90 days”</i>
Category A activities	
Regulation 3	A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, <u>must conduct a basic assessment process set out in the EIA Regulations made under Section 24(5) of NEMA as part of a waste management licence application</u> contemplated in Section 45 read with Section 20(b) of the NEMWA.
Category A activities	Storage of waste (1) The storage of general waste in lagoons. (Note: storage of general waste other than in lagoons – refer to Category C [i.e. no licence])

Recycling or recovery of waste

(3) The recycling of general waste at a facility that has an operational area in excess of 500m², excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises.

(4) The **recycling of hazardous waste in excess of 500kg but less than 1 ton per day calculated as a monthly average**, excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises.

(5) **The recovery of waste including the refining, utilisation, or co-processing of waste** in excess of 10 tons but less than 100 tons of general waste per day or **in excess of 500kg but less than 1 ton of hazardous waste per day**, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.

Treatment of waste

(6) The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons.

(7) **The treatment of hazardous waste using any form of treatment at a facility that has the capacity to process in excess of 500kg but less than 1 ton per day excluding the treatment of effluent, wastewater or sewage.**

Disposal of waste

(9) The disposal of inert waste to land in excess of 25 tons but not exceeding 25 000 tons, excluding the disposal of such waste for the purposes of levelling and building which has been authorised by or under other legislation.

(10) The disposal of general waste to land covering an area of more than 50m² but less than 200m² and with a total capacity not exceeding 25 000 tons.

(11) The disposal of domestic waste generated on premises in areas not serviced by the municipal service where the waste disposed exceeds 500kg per month.

	<p>Construction, expansion or decommissioning of facilities and associated structures and infrastructure</p> <p>(12) The construction of a facility for a waste management activity listed in Category A of this Schedule (not in isolation to associated waste management activity).</p> <p>(13) The expansion of a waste management activity listed in Category A or B of this Schedule which does not trigger an additional waste management activity in terms of this Schedule.</p> <p>(14) The decommissioning of a facility for a waste management activity listed in Category A or B of this Schedule.</p>
<p>Category B activities</p>	
Regulation 4	<p>A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, <u>must conduct a scoping and environmental impact reporting process set out in the EIA Regulations made under Section 24(5) of NEMA as part of a waste management licence application</u> contemplated in Section 45 read with Section 20(b) of the NEMWA.</p>
Category activities	<p>B</p> <p>Storage of hazardous waste</p> <p>(1) The storage of hazardous waste in lagoons excluding storage of effluent, wastewater or sewage. (Note: storage of hazardous waste other than in lagoons – refer to Category C [i.e. no licence])</p> <p>Reuse, recycling or recovery of waste</p> <p>(2) The <u>reuse or recycling of hazardous waste in excess of 1 ton per day</u>, excluding reuse or recycling that takes place as an integral part of an internal manufacturing process within the same premises.</p> <p>(3) The recovery of waste including the refining, utilisation, or co-processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.</p> <p>Treatment of waste</p> <p>(4) The <u>treatment of hazardous waste in excess of 1 ton</u></p>

	<p><u>per day calculated as a monthly average; using any form of treatment</u> excluding the treatment of effluent, wastewater or sewage.</p> <p>(5) The treatment of hazardous waste in lagoons, excluding the treatment of effluent, wastewater or sewage.</p> <p>(6) The treatment of general waste in excess of 100 tons per day calculated as a monthly average, using any form of treatment.</p> <p>Disposal of waste on land</p> <p>(7) The <u>disposal of any quantity of hazardous waste to land</u>. (Note: definition of residue deposits and residue stockpiles as well as distinction between disposal and storage)</p> <p>(8) The disposal of general waste to land covering an area in excess of 200m² and with a total capacity exceeding 25 000 tons.</p> <p>(9) The disposal of inert waste to land in excess of 25 000 tons, excluding the disposal of such waste for the purposes of levelling and building which has been authorised by or under other legislation.</p> <p>Construction of facilities and associated structures and infrastructure</p> <p>(10) The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity).</p>
Category C activities	
Regulation 5	<p>A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, must comply with the relevant requirements or standards determined by the Minister listed below-</p> <p>(a) Norms and Standards for Storage of Waste, 2013; or</p> <p>(b) Standards for Extraction, Flaring or Recovery of Landfill Gas, 2013; or</p> <p>(c) Standards for Scrapping or Recovery of Motor Vehicles, 2013.</p>
Category activities	<p>C Storage of waste</p> <p>(1) The storage of general waste at a facility that has the capacity to store in excess of 100m³ of general waste at any one time, excluding the storage of waste in lagoons or temporary storage of such waste.</p>

	<p>(2) The <u>storage of hazardous waste at a facility that has the capacity to store in excess of 80m3 of hazardous waste at any one time, excluding the storage of hazardous waste in lagoons or temporary storage of such waste.</u></p> <p>(3) The storage of waste tyres in a storage area exceeding 500m².</p> <p>Recycling or recovery of waste</p> <p>(2) The sorting, shredding, grinding, crushing, screening or bailing of general waste at a facility that has an operational area in excess of 1000m².</p> <p>(4) The scrapping or recovery of motor vehicles at a facility that has an operational area in excess of 500m².</p> <p>(5) The extraction, recovery or flaring of landfill gas.</p>
Transitional provisions	<ul style="list-style-type: none"> • A person who lawfully conducts a waste management activity listed in this Schedule on the date of the coming into effect of this Notice may continue with the waste management activity until such time that the Minister by notice in a Gazette calls upon such a person to apply for a waste management licence. • An application for a waste management activity which was listed under the previous Waste Management Activities List Notice which is no longer listed in terms of this Schedule and a decision on such an application is still pending on the date of coming into effect of this Notice, such an application will be considered withdrawn. <p>If a situation arises where waste management activities, listed under the previous Waste Management Activities List Notice, are listed differently under the current list of waste management activities, and a decision on such an application is still pending, such an application will still be processed by the licensing authority in accordance with this Notice, except if it is an application for a waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage).</p> <ul style="list-style-type: none"> • A person who submitted an application for a waste management licence for a waste management activity which is no longer listed in Category A or B but listed in

Category C of this Schedule on the date of coming into effect of this Notice, must consider such an application for that activity withdrawn, and must comply with the requirements or standards for that waste management activity.

- A person who lawfully conducted a waste management activity that is no longer listed in Category A or B, but listed in Category C of this Schedule, on the date of coming into effect of this Notice, may continue with the waste management activity for the duration stipulated in the permit or waste management licence until the expiry date of the permit or waste management licence where after such a person must comply with the requirements or standards for that waste management activity.
- An application submitted for a waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) and is still pending on the date of coming into effect of this Notice, such an application will be considered by the relevant licensing authority and will be assessed and decided upon under the previous Waste Management Activities List Notice up to the construction phase of that facility.
- A person who obtained a waste management licence for waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) prior to the coming into effect of this Notice, must comply with the waste management licence conditions up to the completion of the construction phase and thereafter must comply with any applicable authorisation or legislation.
- A person who submitted an application for a waste management licence for activity A 3(11) or B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) and such an application falls outside the revised thresholds for

	these activities under the NEMA Listing Notices, wherein a decision is still pending on the date of coming into effect of this Notice, must consider such an application withdrawn.
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Waste Pricing Strategy: Firstly, Government is developing a Waste Pricing Strategy which the CSIR has been commissioned to undertake. This draws from international research and practice and presents a range of fiscal options with which the government is now empowered to “catalyse the waste economy”.

These could include fees, incentives, taxes, levies, deposit schemes and the like, which would generate significant revenue. The aim is to increase the value of waste as a resource and to generate a flow of revenue into the treasury that can be pooled and redirected through a new departmental Waste Bureau to deserving projects and programmes that stimulate the waste and recycling economy, divert waste from landfill and create jobs at the same time.

Despite pleas to ring-fence the incoming revenue through fiscal measures, the Department of Environment Affairs is bound by stipulations that any funds arising from taxes must go through Treasury, as it maintains it has the power and is best suited to administer them. Other fiscal means to accumulate funds such as levies, deposit schemes etc are not however required to go through Treasury.

Private and public sector entities seeking to apply for funds collected must first draw up business plans outlining inter alia how much they want, how they will stimulate the recycling economy and how many jobs will be created in the process.

New Waste Bureau: The Department of Environmental Affairs (DEA) has established the Waste Bureau in terms of section 34A (1) of the National Environmental Management Act – Waste Act, 2008 (Act No. 59 of 2008). The Waste Management Bureau will oversee the implementation of Industry Waste Management Plans (IWMPs), including the management and the disbursement of revenue collected from waste management charges.

EPR looming large: Extended Producer Responsibility (“EPR”), a concept widely accepted by the producers, is looming large in the new government plans as a stick to pressure them to increase recycling diversion from landfill, with the carrot of providing possible funding (on its terms) with which to do so.

Waste Management Council: Also in the DEA's plan is a new Waste Management Council seen as a public-private cross-sector stakeholder body to advise and guide the direction of the waste recycling industry into a brighter, less wasteful and more prosperous future.

It is hoped that it will be sufficiently representative to include experienced industry stakeholders who have a deep understanding of how the recycling business works in practice.

THE NATIONAL WASTE MANAGEMENT STRATEGY (NWMS)

Gazetted by DEA in 2012, aims at giving effect to the objects of the Waste Act. Municipalities are required to align their IWMP's to the NWMS targets where possible in order to contribute to the attainment of the goals and targets set in the NWMS.

NATIONAL DOMESTIC WASTE COLLECTION STANDARDS, JANUARY 2011

The main purpose of these standards is to redress past imbalances in the provision of waste collection services, whereby it has become imperative that acceptable, affordable and sustainable waste collection services be rendered to all South Africans.

The provision of waste collection services will improve the quality of life of citizens and will ensure that citizens live in a clean and more acceptable environment. The lack of waste collection services or poor quality waste collection services can result in a number of environmental and human health problems and therefore proper planning is crucial.

NATIONAL POLICY FOR THE PROVISION OF BASIC REFUSE REMOVAL SERVICES TO INDIGENT HOUSEHOLDS

This policy provides for the provision of basic refuse removal for Indigent households. The policy defines basic refuse removal service level as the most appropriate level of waste removal service that should be provided and this is based on site specific circumstances. Such a basic level of service be it in an urban or rural set-up, is attained when a Municipality provides or facilitates waste removal. The policy further outlines the appropriate levels of service for different settlement densities, frequency of collection and provision of waste receptacles amongst others.

NATIONAL ENVIRONMENT MANAGEMENT ACT, (ACT 107 OF 1998) NEMA

NEMA is the mother of all environmental management Acts in South Africa. The purpose of NEMA is to uphold the provisions of section 24 of the Bill of rights (The Constitution of the Republic of South Africa). It aims to promote and uphold the rights of South African citizens to live in an environment that is not harmful to its health or well-being.

It places sustainable development at the centre of every development process that has the potential to have an impact on social, economic and environment whereby it requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations.

MUNICIPAL SYSTEMS ACT, 2000 (ACT 32 OF 2000)

In terms of Section 25 of the MSA each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan (IDP) for the development of the Municipality. In relation to waste management, the IDP is required to include sectorial environmental plans which would be an IWMP for waste management. In their IDP's municipalities are required to ensure proper resource allocation to achieve the targets set in the respective plans.

NATIONAL HEALTH ACT, 2003 (ACT 61 OF 2003)

The National Health Act 61 of 2003 provides a framework for a structured uniform health system within the Republic, taking into account the obligations imposed by the Constitution and other laws on the national, provincial and local governments with regard to health services; and to provide for matters connected therewith.

Section 32 of the 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 to fund 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 of 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 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) is 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 then 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 Section 32 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 performance and monitoring standards.

The National Health 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 (including HCRW) disposal sites and waste collecting, sorting, treating or processing sites.

3. Methodology

3.1 Situation analysis

3.1.1 Approach

The following methodology was followed for the situation analysis investigation:

- (i) All relevant records of the Waste Management Section of the Municipality were obtained for the purposes of the study.
- (ii) Relevant officials from the Municipality were interviewed.
- (iii) All the areas in the study area were visited on the above-mentioned date to obtain first-hand knowledge of the existing status of the waste management services rendered.
- (iv) The Waste Infrastructure in the form of Waste disposal sites was inspected during the site visit on the abovementioned date.
- (v) Financial information on waste management within the Municipality was obtained from the Approved Tariff Structure and Municipal Budget 2022/2023 financial years.
- (vi) Much of the general information was obtained from the approved IDP (2017/2022) and Stats SA 2011 data.

3.2 Background

The Municipality is located in the municipal boundaries of the Amathole District in the Eastern Cape Province and is bordered by the King Sabata Dalindyebo in the north-east, Mnquma in the south, Ntsika Yethu in the south-west, and Ngcobo in the west. It is a Category B municipality in the Eastern Cape Province and is one of six municipalities in the district which make up a geographical area of 3 303 km² and consist of 32 wards. The Municipality is seated in the Dutywa town and consist of 60124 households housing a population of 277 250 (Community Survey, 2021).

3.3 Locality

The municipality is made up of three main towns namely, Dutywa, Elliotdale, and Willowvale and 2 informal settlements Goven Mbeki, Walter Sisulu, Extension 1, 2 and 8. The Municipality is located in Dutywa on the N2 national road approximately 150km north east of the town East London in the south-eastern part of the Eastern Cape Province. The location of the Municipality is shown on the following Figure 1:

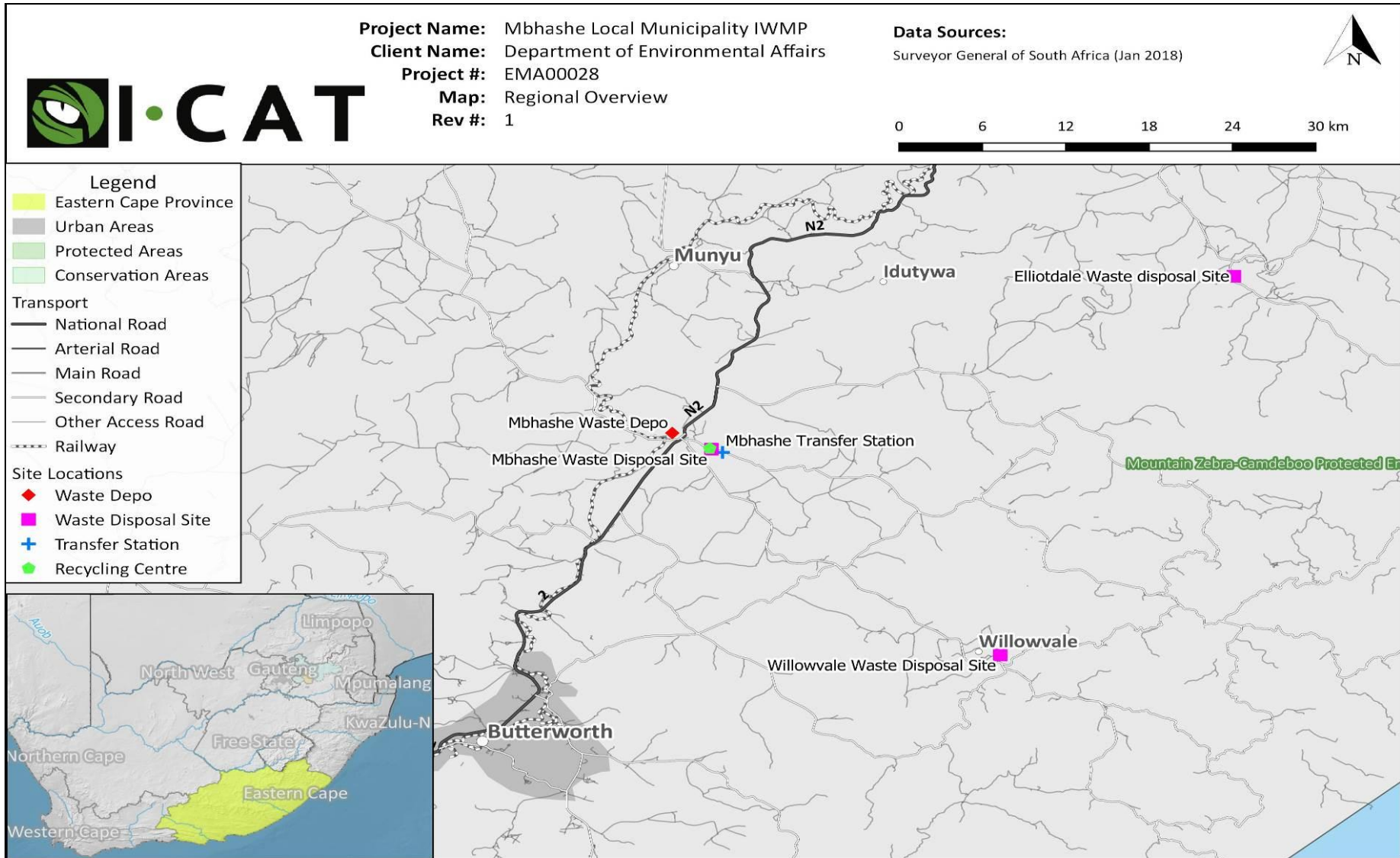


Figure 1: Locality of the Municipality

3.4 Study area

The following towns and areas formed part of this study:

- Dutywa
- Elliotdale
- Willowvale

The following are rural areas that are also included in the Mbashe municipal area:

- Goven Mbeki
- Walter Sisulu
- Extension 1, 2 and 8

4. Demographics

5. The following demographic information was obtained from the ECSECC survey of 2021. Understanding the changes in the composition of the population with respect to population group, age and gender is vital in the face of growing pressure on food, energy, water, jobs and social support on the country's citizens. An understanding of how the total fertility rates, age-specific fertility rates, sex ratios at birth, life expectancies and international migration affect the respective population groups, ages and genders is essential for effective planning on a spatial level. The first section of the Statistical Overview Report will aim to disentangle the changes in the Mbashe Local Municipality demographics in context of other locals of the region, the districts, the Province and South Africa.

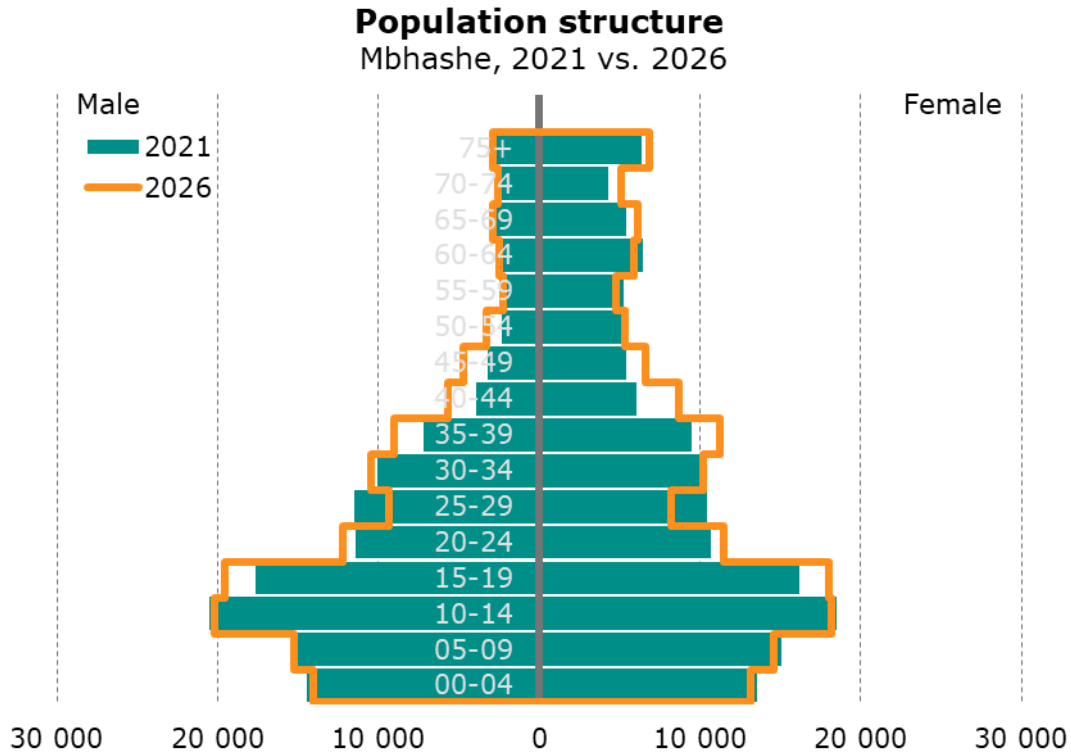
According to the Census 2021, the Municipality has shown a decrease in the number of households that receive a refuse removal service from the local authority due to the increasing number of households in rural areas. The number of households that do not receive a refuse removal service can in this case also be attributed to informal settlements in rural areas that are remotely located and which are not easily accessible to the Municipality to render a waste removal service due to a lack of resources and inaccessible roads.

5.1.1 Population

The total population of the Municipality is 279 000 people, the Mbashe Local Municipality housed 0.5% of South Africa's total population in 2021. Between 2011 and 2021 the

population growth averaged 0.46% per annum which is more than half than the growth rate of South Africa as a whole (1.50%). Compared to Amatole's average annual growth rate (0.18%), the growth rate in Mbhashe's population at 0.46% was more than double than that of the district municipality

	Mbhashe	Amatole	Eastern Cape	National Total	Mbhashe as % of district municipality	Mbhashe as % of province	Mbhashe as % of national
2011	267,000	868,000	6,690,000	52,000,000	30.7%	4.0%	0.51%
2012	266,000	864,000	6,750,000	52,800,000	30.8%	3.9%	0.50%
2013	266,000	861,000	6,810,000	53,700,000	30.9%	3.9%	0.50%
2014	267,000	860,000	6,880,000	54,500,000	31.0%	3.9%	0.49%
2015	268,000	861,000	6,950,000	55,300,000	31.1%	3.9%	0.48%
2016	269,000	863,000	7,020,000	56,200,000	31.2%	3.8%	0.48%
2017	271,000	865,000	7,100,000	57,000,000	31.3%	3.8%	0.48%
2018	273,000	870,000	7,180,000	57,900,000	31.4%	3.8%	0.47%
2019	275,000	875,000	7,250,000	58,800,000	31.5%	3.8%	0.47%
2020	277,000	880,000	7,330,000	59,600,000	31.5%	3.8%	0.47%
2021	279,000	885,000	7,400,000	60,300,000	31.6%	3.8%	0.46%
Average Annual growth							
2011-2021	0.46%	0.18%	1.01%	1.50%			



Source: IHS Markit Regional eXplorer version 2257

	Male	Female	Total
Mbhashe	130,466	148,646	279,112
Mnquma	119,189	129,837	249,026
Great Kei	15,051	15,436	30,486
Amahlathi	48,481	52,578	101,060
Ngqushwa	29,724	33,834	63,558
Raymond Mhlaba	78,294	83,105	161,400
Amatole	421,205	463,436	884,642

Figure 2: Gender Distribution

Mbhashe Local Municipality's male/female split in population was 87.8 males per 100 females in 2021. The Mbhashe Local Municipality has significantly more females (53.26%) than males, when compared to a typical stable population. This is most probably an area with high male out migration to look for work elsewhere. In total there were 149 000 (53.26%) females and 130 000 (46.74%) males. This is different from the Amatole District Municipality

as a whole where the female population counted 463 000 which constitutes 52.39% of the total population of 885 000.

	Mbhashe	Amatole	Eastern Cape	National Total	Mbhashe as % of district municipality	Mbhashe as % of province	Mbhashe as % of national
2011	63,400	228,000	1,710,000	14,300,000	27.9%	3.7%	0.44%
2012	63,700	228,000	1,730,000	14,600,000	28.0%	3.7%	0.44%
2013	63,700	227,000	1,750,000	14,900,000	28.0%	3.6%	0.43%
2014	63,500	226,000	1,760,000	15,200,000	28.1%	3.6%	0.42%
2015	64,200	228,000	1,790,000	15,600,000	28.2%	3.6%	0.41%
2016	65,300	231,000	1,830,000	16,000,000	28.2%	3.6%	0.41%
2017	66,600	235,000	1,880,000	16,300,000	28.3%	3.6%	0.41%
2018	67,200	237,000	1,900,000	16,400,000	28.4%	3.5%	0.41%
2019	65,600	231,000	1,870,000	16,400,000	28.4%	3.5%	0.40%
2020	64,000	226,000	1,840,000	16,400,000	28.4%	3.5%	0.39%
2021	65,100	229,000	1,880,000	16,600,000	28.4%	3.5%	0.39%
Average Annual growth							
2011-2021	0.27%	0.08%	0.93%	1.51%			

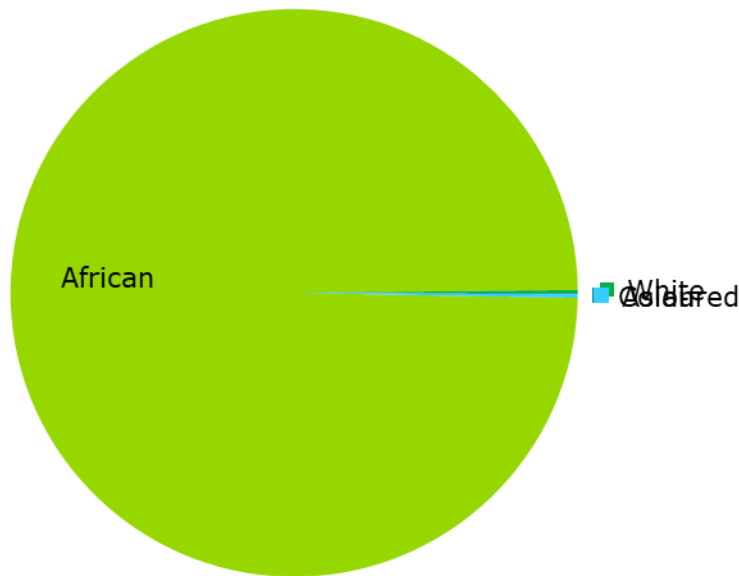
Figure 3: Household Distribution

The majority of households with the municipality are informal settlements as formal settlements are at 41.1% of the population which resides in the surrounding townships, with the rest living on traditional dwellings.

This can have an impact on the municipal refuse collection service due to the inaccessibility of remote locations which could limit the municipality’s ability to service these areas and lead to more regular occurrence of illegal dumping. The refuse collection distribution for the municipality will be discussed further in this document.

Number of Households by Population group

Mbhashe, 2021



Source: IHS Markit Regional eXplorer version 2257

Figure 4: Population Groups

The population is predominantly Black African within the Municipality.

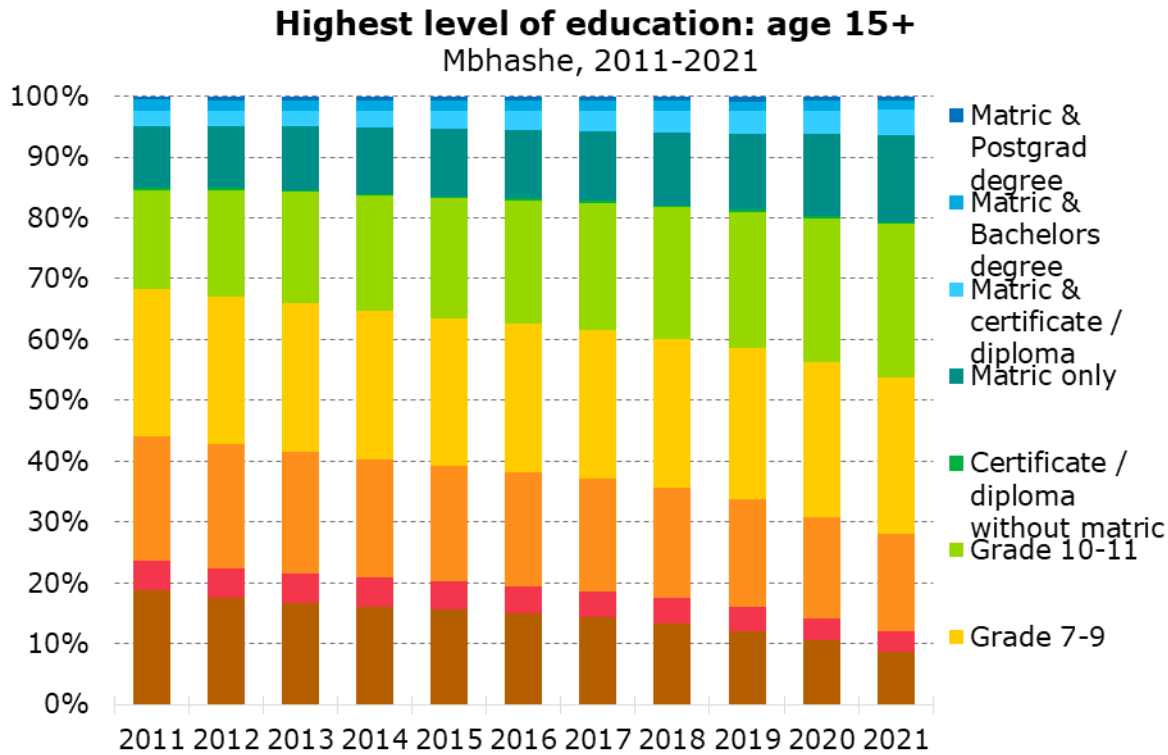
The growth in the number of African headed households was on average 0.26% per annum between 2011 and 2021, which translates in the number of households increasing by 1 640 in the period. Although the Asian population group is not the biggest in size, it was however the fastest growing population group between 2011 and 2021 at 5.63%. The average annual growth rate in the number of households for all the other population groups has increased with 0.26%.

5.1.2 Income Levels Income Levels and Employment Distribution

The level of household income further explains poverty level of Mbashe. Only 39% of households has monthly income equal to or higher than R 3 000.00, whereas 47% living with equal to or less than R 8 000.00 per month and 14% has no income. It means about 61% households is living within poverty level (Mbashe IDP, 2017/2022). One of the main challenges that the Municipality is facing is the absent of data regarding the economic activities, employment, unemployment and income status.

5.1.3 Education

The distribution of the population aged 20 years and older by level of education attained is illustrated in **Figure 5** below. (Geographical Survey, 2021)

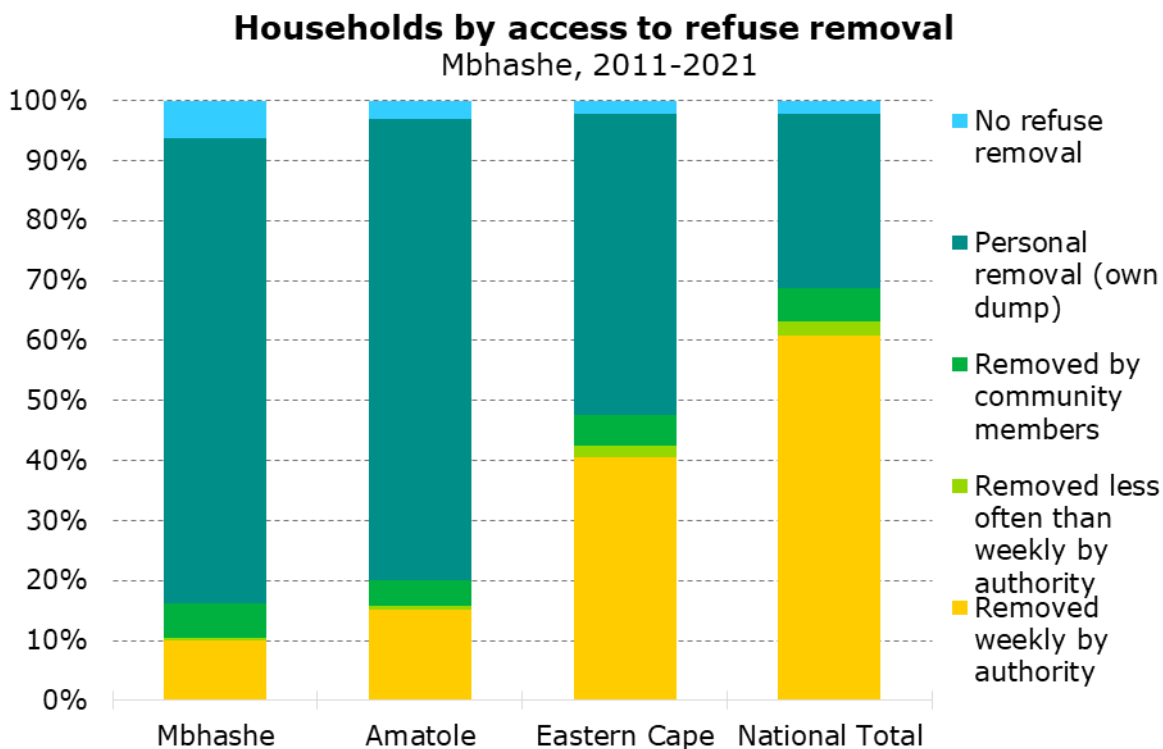


Source: IHS Markit Regional eXplorer version 2257

Within Mphashe Local Municipality, the number of people without any schooling decreased from 2011 to 2021 with an average annual rate of -6.08%, while the number of people within the 'matric only' category, increased from 13,400 to 21,400. The number of people with 'matric and a certificate/diploma' increased with an average annual rate of 6.64%, with the number of people with a 'matric and a Bachelor's' degree increasing with an average annual rate of 0.37%. Overall improvement in the level of education is visible with an increase in the number of people with 'matric' or higher education.

5.1.4 Refuse removal per household

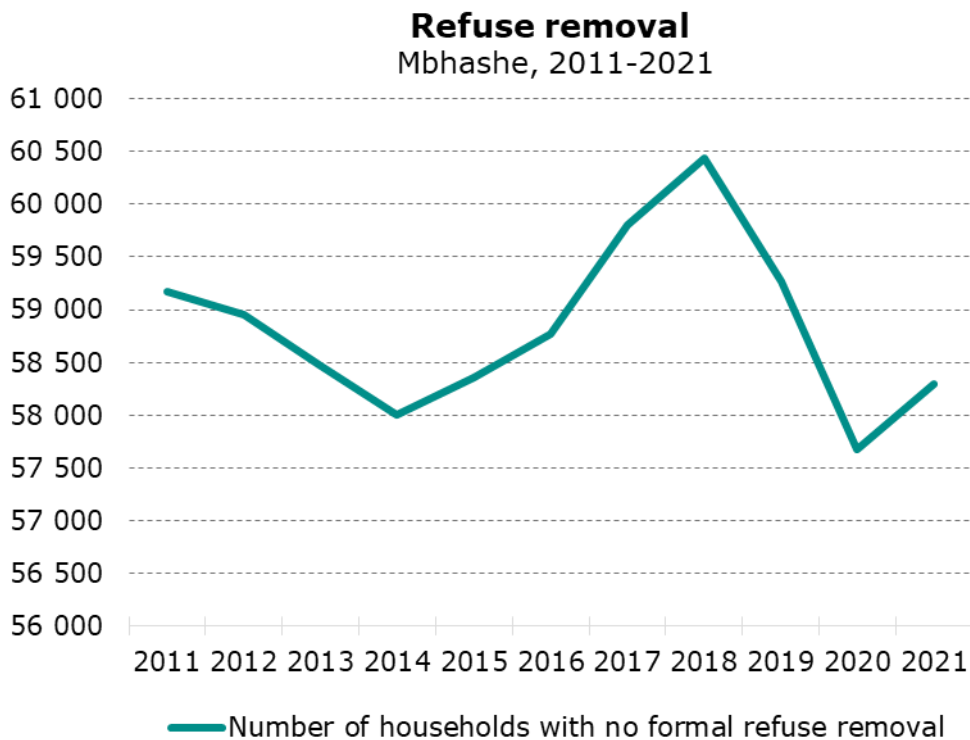
Figure 6 illustrates the distribution of households by refuse removal in 2021.



Source: IHS Markit Regional eXplorer version 2257

Figure 5: Household Distribution of Refuse Removal

Mbhashe Local Municipality had a total number of 6 490 (9.96%) households which had their refuse removed weekly by the authority, a total of 353 (0.54%) households had their refuse removed less often than weekly by the authority and a total number of 50 400 (77.34%) households which had to remove their refuse personally (own dump).



Source: IHS Markit Regional eXplorer version 2257

5.2 Waste quantities and types

A Municipality must determine the quantities and the types of waste generated in its area of jurisdiction. This involves establishing the current quantities of waste generated, recycled, treated and disposed of. Waste quantities are usually measured by mass (kilograms or tons).

This information was collected from the following sources:

- Waste transporters - Municipality
- Waste managers - Waste disposal facilities, treatment facilities
- IDP and municipal records
- Waste Information System

5.2.1 Waste Generation

Waste generation quantities can be calculated using the following three methods:

- *Option 1: Weighbridge* - Using a weighbridge a Municipality must record the amounts of waste entering its waste disposal facility, by weighing the vehicles at the point of entry and again on the way out. The difference in the mass of the vehicle between the 'in' and 'out' provides the mass of the waste.
- *Option 2: Without a weighbridge* - Municipalities can estimate the amount of waste generated by using a volume density based estimation. This requires accurate records.
- *Option 3: Sampling or conducting a waste stream analysis at a household/Ward level* Waste stream analysis or a waste audit can be conducted by selecting a representative sample of an area which should at least comprise of 30 % of the total sample area. In residential areas, these could be households from different Wards in order to ensure inclusivity and representation. Once that is known, the participating households can then be provided with receptacles and these could be different coloured plastic bags such as a black bag for mixed waste and a clear bag for recyclables. The participating households could also be provided with instructions/training on the objectives of the study, what is required of them and how the audit will be carried out.

The municipality is currently using the Option 2 method mentioned above to determine the waste generation rates for the area. The method used to estimate the waste generation figures for the Municipality is an estimate based on per capita waste generation rates. This method is also recommended in the Minimum Requirements for Waste Disposal by Waste disposal site, published by Department of Water Affairs and Forestry in 1998, when no other information source is available.

5.2.2 Waste Generation per Capita

The Municipality falls into the low-income level. Therefore, the estimated waste generation value is taken as 0.41kg per capita per day. The Municipality between 2016 and 2021 had an average population growth rate of 1.3%. Therefore, the current population figure is estimated at 288 289 with a total waste generation figure of 43 142 tons per annum. The calculation is shown in the following Table 1.

Table 1: Current waste generation figures

Year	Population Growth (%)	Population	Per Capita Waste Generation (kg/ca/day)	Total/Day (ton)	Total/Month (ton)	Total/Annun (ton)	CUM (ton)
2016	1.31%	277250	0.41	114	3458	41490	41490
2017	1.31%	280882	0.41	115	3503	42034	83524
2018	1.31%	284562	0.41	117	3549	42585	126109
2019	1.31%	288289	0.41	118	3595	43142	169252

5.2.3 Future Waste Generation Rates and Quantities

With the assumption that the future population growth rates and growth estimates remained constant for the next 10 years and the per capita waste generation rates also remained constant then results would be as follows:

Table 2: Future population figures and waste generation rates

Year	Population Growth (%)	Population	Per Capita Waste Generation (kg/ca/day)	Total/Day (ton)	Total/Month (ton)	Total/Annun (ton)	CUM (ton)
2016	1.31%	277250	0.41	114	3458	41490	41490
2017	1.31%	280882	0.41	115	3503	42034	83524
2018	1.31%	284562	0.41	117	3549	42585	126109
2019	1.31%	288289	0.41	118	3595	43142	169252
2020	1.31%	292066	0.41	120	3642	43708	212959
2021	1.31%	295892	0.41	121	3690	44280	257239
2022	1.31%	299768	0.41	123	3738	44860	302100

202							
3	1.31%	303695	0.41	125	3787	45448	347548
4	1.31%	307673	0.41	126	3837	46043	393591
5	1.31%	311704	0.41	128	3887	46647	440238
6	1.31%	315787	0.41	129	3938	47258	487495
7	1.31%	319924	0.41	131	3990	47877	535372
8	1.31%	324115	0.41	133	4042	48504	583876
9	1.31%	328361	0.41	135	4095	49139	633015

Total for 10 Years (ton) 633 015

The above results show that if the current population and waste generation trend remains constant in the next 10 years the municipality will produce a total of 633 015 tons of waste for which they will have to make provision for in terms of waste disposal site airspace, transport, and personnel.

Note: The above figure does not take into account any possible recycling; reduction or reuse initiative the Municipality is likely to put into place in the near future which could reduce the final disposal to waste disposal site volume.

5.2.4 Waste Type Analysis

The following is a short description of the methodology followed in the execution of the project:

A waste stream characterisation was conducted to determine the quantity of recyclables present in the waste body within the Municipality. An observation and waste characterisation exercise on the landfill indicates that the following waste fractions are frequent in the waste stream within the Municipality:

- Card board boxes
- Paper
- Plastics
- Glass

- Metal (tins)
- Non Recyclables
- Disposable nappies
- Organic waste
- Scrap Metal



Figure 6: Collecting waste from different income areas

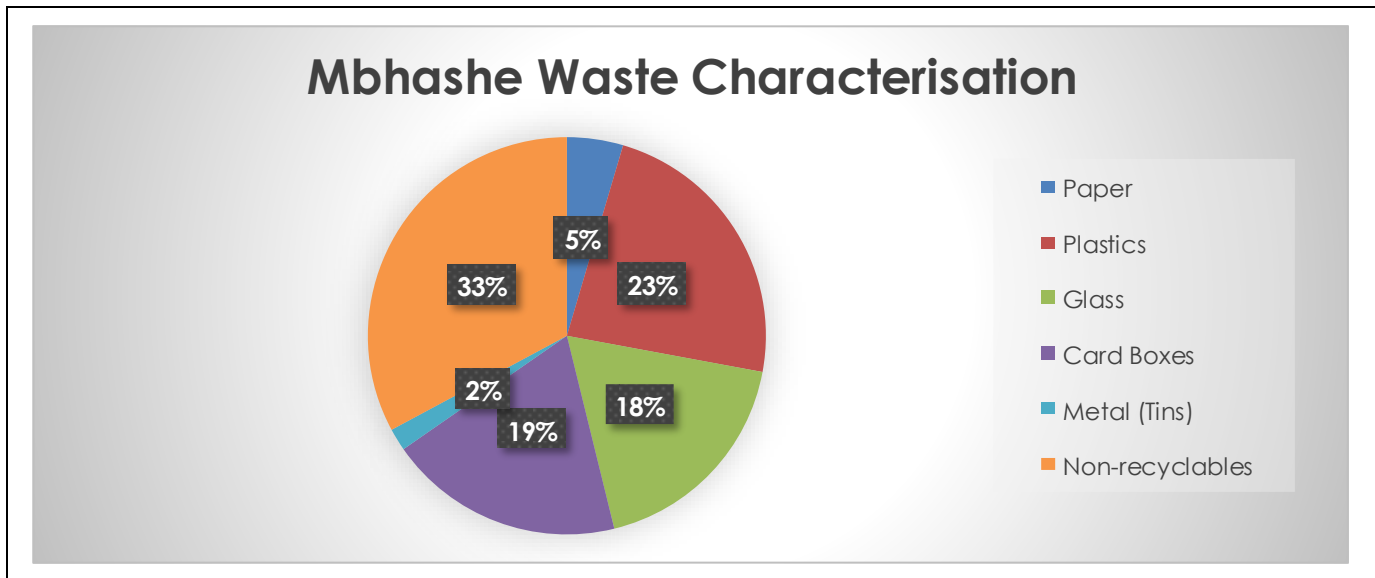
Figure 7: Weighing the recyclables after they were sorted into different categories



Figure 8: Sorting waste into recyclable categories in black bags

Figure 9: Waste stream summarisation of the municipality

Summary: Waste Characterisation



The figure shows that the typical waste stream for the Municipality consists mainly of non-recyclable material. This study shows for the Municipality; the total amount of recyclables present in the waste body is more or less 67%.

5.2.5 Industrial and Mining Waste

The Municipality does not collect hazardous, industrial, scrap metal or mining waste. The possibility of hazardous industrial or mining waste disposal on the municipal waste disposal site is therefore irrelevant. During site visits no hazardous, industrial or mining waste was observed around town.

5.2.6 Health Care Risk Waste

No health care risk waste (HCRW) are being collected by the Municipality and therefore is therefore irrelevant. With regard to this IWMP, the responsibility of the Municipality is to ensure that no HCRW is disposed of on the municipal waste disposal site.

The Municipal area has 29 residential clinics, 3 Community Health Centres (CHC) and 1 District hospital which is Madwaleni hospital, 6 mobile clinics and 7 functional health posts. During site visit and interviews with staff members, it was mentioned that there are two kinds of wastes that are generated by the Health facilities, namely:

- Solid Waste
- Medical waste

All HCRW is collected by private companies on a monthly basis. The municipality should be aware of where the HCRW is disposed of and therefore some form of record keeping should be enforced by the municipality.

The general waste produced at the medical facilities is collected by the municipality and disposed of currently at the municipal waste disposal facilities. Personnel at the clinics need to be trained to improve waste management and recycling within the clinics in the municipal area.

5.3 Recycling, treatment and disposal

5.3.1 Recycling

The Municipality has an informal rural waste program in place although there are currently no formal Municipal driven waste minimisation activities taking place in the Municipality.

The municipality is in the process of finalising the establishment of a Buy Back Centre (BBC) in the town of Idutywa. The BBC will source recyclable waste from waste pickers around town and surrounds. The waste will be sold to recycling companies. A service provider was appointed to run the program.

The municipality has also approved the completion of the construction of the waste transfer station in Idutywa where waste separation will be undertaken and recyclable waste taken to the BBC

5.3.2 Garden Refuse

Limited volumes of garden refuse are being disposed within the residential areas as it is a low-income area. Residents mostly make use of their own black bags if they dispose any garden refuse which are collected with their general household waste by the Municipality. The exact volume of garden refuse generated are not known since no record-keeping of different types of waste takes place at the municipal waste disposal sites.

5.3.3 Treatment and Disposal

Municipalities should keep a record of waste disposal facilities under their area of jurisdiction and should indicate the status of these waste disposal facilities (i.e. whether they are licensed or unlicensed) including treatment facilities for hazardous waste (even if they are owned and operated by the private sector). Municipalities are required to ensure that waste is properly managed and disposed of according to waste license conditions. It is also important

that municipalities must establish the size of their waste disposal facilities; the anticipated lifespan and/ or available airspace, types and quantities of waste disposed, and should take note of whether these are operated in a sound and environmentally acceptable manner.

5.3.4 Waste disposal sites





The Municipality has jurisdiction over 3 waste disposal sites namely Dutywa, Elliotdale and Willowvale waste disposal site.

The Dutywa waste disposal site is licenced for closure and is located approximately 2.5 km south east of the town and utilised for disposal purposes. The site is fenced but has no access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Dutywa waste disposal site according to license condition.

The status of the Dutywa waste disposal site is summarised below in Table 3 and depicted visually in the subsequent photo gallery (Figure 11 to 14):

Table 3: The status of the Dutywa Waste disposal site

Position of site:	2.5km south east of the Dutywa town. (Co-ordinates: 32° 6'21.13"S and 28°19'31.83"E).
Permit/License:	Yes for closure
Year issued:	2015
Classification of site:	Class G (G: C: B ⁻)
Type of Operation (end – tip, trench, cell):	Cell method
Estimated size of site:	Approximately 2 ha
Estimated remaining life of site:	2 years
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	N/A
Is cover material available?:	Yes
Is the drainage sufficient?:	No
Is there access control?:	No
Is the site fenced?:	Yes
Does the site have a sufficient buffer zone?:	Yes

Type of equipment utilised on site:	None
Operating hours:	8AM – 5PM, Monday - Friday
Site facilities, i.e. ablutions, guard house:	Only a guard house
Estimating cost for closure:	N/A
Savings plan for closure:	
	
Figure 10: Dutywa waste disposal site entrance	Figure 11: Cell method of operation on waste disposal site
	
Figure 12: Waste disposal site not operated in accordance to license conditions	Figure 13: waste reclaimers on waste disposal site

The Elliotdale waste disposal site is authorised but is experiencing operational problems in varying degrees but can mainly be as a result of uneducated personnel as well as interference by uncontrolled reclaiming activities on daily operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.

The status of the Elliotdale waste disposal site is summarised below in Table 4 and depicted visually in the subsequent photo gallery (Figure 15 to 16):

Table 4: The status of the Elliotdale Waste disposal site

Position of site:	3km south west of the Elliotdale town. (Co-ordinates: 31°58'36.74"S and 28°39'48.16"E).
Permit/License:	Yes
Year issued:	N/A
Classification of site:	Class G (G: C: B)
Type of Operation (end – tip, trench, cell):	Cell method
Estimated size of site:	Approximately 2 ha
Estimated remaining life of site:	2 years
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	N/A
Is cover material available?:	Yes
Is the drainage sufficient?:	No
Is there access control?:	No
Is the site fenced?:	Yes
Does the site have a sufficient buffer zone?:	Yes
Type of equipment utilised on site:	No
Operating hours:	8AM – 5PM, Monday - Friday
Site facilities, i.e. ablutions, guard house:	Yes
Estimating cost for closure:	N/A
Savings plan for closure:	



Figure 14: Elliotdale waste disposal site entrance



Figure 15: Trench method of operation on waste disposal site

The Willowvale waste disposal site is licenced for closure and is located approximately 1km north east of the town and utilised for disposal purposes. The waste disposal site is small with relatively small volumes of waste being disposed. The site is fenced and has access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Willowvale waste disposal site according to license condition.

The status of the Willowvale waste disposal site is summarised below in Table 5 and depicted visually in the subsequent photo gallery (Figure 17 to 18):

Table 5: The status of the Willowvale Waste disposal site

Position of site:	1km north east of the Willowvale town. (Coordinates: 32°15'33.93"S and 28°30'44.40"E).
Permit/License:	Yes for closure
Year issued:	2015
Classification of site:	Class G (G: C: B-)
Type of Operation (end – tip, trench, cell):	Cell method
Estimated size of site:	Approximately 2 ha
Estimated remaining life of site:	2 years
Separation of fresh and contaminated	No

water:	
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	N/A
Is cover material available?:	Yes
Is the drainage sufficient?:	Yes
Is there access control?:	Yes
Is the site fenced?:	Yes
Does the site have a sufficient buffer zone?:	Yes
Type of equipment utilised on site:	N/A
Operating hours:	8AM – 5PM, Monday - Friday
Site facilities, i.e. ablutions, guard house:	Yes
Estimating cost for closure:	N/A
Savings plan for closure:	



Figure 16: Willowvale waste disposal site entrance



Figure 17: Cell method of operation on waste disposal site

5.3.5 Transfer Stations

The Municipality has only one transfer station in its area of jurisdiction which is currently not operational. The non-operational transfer station is located adjacent the Dutywa waste disposal site.



Figure 18: Dutywa waste transfer station entrance



Figure 19: Current infrastructure of the non-operational transfer station

5.4 Status of waste collection services

5.4.1 Service Area and Refuse Collection

The Mbashe Municipal Area incorporates a total of 32 wards which includes inter alia the town Dutywa, Elliotdale and Willowvale and all the informal settlements. The entire service area is indicated on Figure 1 of the report. Currently, waste services are rendered to all developed and proclaimed areas of the Municipality.

As stated before, the refuse collection service is rendered by the Cleansing Division which forms part of the Waste Management Department of the Municipality. Waste collection is done regularly throughout each of the units.

The municipality is servicing all the commercial (businesses, restaurants, shops, banks, etc.) areas in town. Most of these commercial entities does not have storage areas for waste and make use of pedestrian bins on the pedestrian walkways. This causes various problems for the municipality like wind blowing litter, waste piling up in front of shops and on the roads, traffic blockages for pedestrians and general unsightliness. Ideally every shop should have storage for waste to reduce waste that is disposed on pedestrian's bins.

5.4.2 Service and Receptacles provided

The Municipality makes use of a black bag system as receptacles within the municipal area. The service provided is summarised below in Table 6 per unit along with detail of the structuring of each units.

Table 6: Service provided for Mphashe Local Municipality

Service Points	Receptacles	Frequency of Service
Dutywa	Black refuse bags, and wheelie bins	Everyday
Elliotdale	Black refuse bags and wheelie bins	Everyday
Willowvale	Black refuse bags and wheelie bins	Everyday
Rural areas and Informal Settlements	Black refuse bags	Everyday

5.4.3 Frequency of street cleansing

The frequency of street cleaning and cleaning of public toilets is indicated in Table 7 below:

Table 7: Street cleaning services in the Municipality

Area	Frequency of street cleansing	
	Frequency of service: Households	Frequency of service: Businesses
Town: litter picking:	Seven times per week	Seven times per week
Town: Street sweeping	Seven times per week	Seven times per week
Rural and informal settlement: litter picking	Two days per week	N/A

5.4.4 Collection Needs

According to the municipality all the areas within the municipal boundary are currently being serviced, however approximately only 10.1% of households are receiving a waste collection service (Geographical Survey, 2021). This could be due to remote locations of household and poor infrastructure limiting the municipality's ability to service these areas.

5.4.5 Equipment

The correct type and numbers of vehicles which is required to effectively deliver waste management services is a major contributing factor for the Municipality to ensure operative and efficient waste service delivery.

The information of the waste equipment was not comprehensive but the information that was received by the municipality is listed in Table 8 below.

Table 8: Waste vehicles used in the Municipality

AREA/TOWN	REG NUMBER	VEHICLE DESCRIPTION	CONDITION
Mbhashe Municipality	JBR 625 EC	Compactor Truck	Fair
Mbhashe Municipality	HFT 339 EC	Compactor Truck	Fair
Mbhashe Municipality	JBR 662 EC	Tractor	Breakdown

The Municipality has a few waste management vehicles and is in a severe shortage of equipment for both collection and waste disposal site operation. The Municipality is responsible for the maintenance of their own vehicles.

Based on the above assessment of the vehicle fleet, the Municipality should compile a vehicle replacement plan to ensure that future planning for the replacement of the vehicles is done at the appropriate time. The actions to be taken by the Municipality to address the collection fleet for service delivery and compile a vehicle replacement plan will be addressed in Phase II of this study i.e. compiling the draft IWMP.

Below illustrates some of the vehicles used within the Municipality (Figure 21-22) below:



Figure 20: Waste compactor truck used for waste collection within the Municipality



Figure 21: Waste compactor truck used within the Municipality

5.5 Financing for waste management

The Municipal Systems Act, Act no. 32 of 2000 (Chapter 8, ss73-86A) requires that municipalities must ensure proper budgeting in order that they are able to deliver on their Constitutional mandate with regards to the provision of waste services. In order for a Municipality to successfully implement its IWMP, it is important to establish the current available resources in terms of finance; human resources, technical skills to deliver on the Municipality's mandate and to implement the goals and targets contained in the plan i.e. development of by-laws and lastly, funding for operational and maintenance costs for equipment for the effective delivery of waste services and establishment of waste disposal facilities. Further, financial management/budgeting is key as it will assist in identifying future resource needs i.e. if there is an increase in the number of households requiring waste collection services what additional resources will be required to deliver the service.

5.5.1 Current Tariff Structure for Waste Collection

The current tariff structure for the Municipality are as follows:

The tariffs are currently in place for the 2019/2020 financial year. Refuse removal tariffs are cost reflective and tariff increases are basically incremental, based on the required revenue to cover the costs and contribute towards the rates revenue. The Municipality currently doesn't have the capacity to ensure the collection of tariffs, but the Municipality are in the process of appointing a service provider to assist with the collection of tariffs.

The following table represents the Mbhashe budget received from the municipality:

Table 9: 2018/19 Municipal budget:

DETAILS	REVISED BUDGET CURRENT YEAR 2015/16	PROJECTED FORECAST OUTER YEAR 2016/17	PROJECTED FORECAST OUTER YEAR 2017/18	PROJECTED FORECAST OUTER YEAR 2018/19
TOTAL INCOME	R 375 179 555	R 385 249 494	R 409 134 962	R 433 273 925
TOTAL OPERATING EXPENDITURE	R 264 350 955	R 272,146,081	R 289 892 131	R 308 280 158
SURPLUS/(DEFICIT) for the year	(R 15 286 312)	(R 44 276 709)	(R 47 895 108)	(R 52 005 311)
CONTRIBUTIONS FROM OPERATING (TO) CAPITAL	R 126 114 911	R 157 380 122	R 167 137 939	R 176 999 078

5.6 Organisational and institutional matters

Current organizational structure or organogram in order to determine the available human resources to deliver waste services. The organogram will highlight the number of staff under each section such as staff to perform management duties, planning, waste collection, recycling and disposal, and enforcement etc. Further an organizational structure could potentially be used to evaluate gaps in areas where there are new functions that must be performed in order to fulfil the Waste Act's requirements.

The Municipality has a personnel Organogram of the Environmental and Waste Management Division within the Municipality. A staff shortage is experienced throughout the service delivery area and mainly relating to the operation of the respective waste disposal sites. The current organizational structure and human resources, including duties of the staff, delivering waste services within the Municipality is not sufficient.

5.7 Legal matters

5.7.1 Legal Compliance

The municipality's current legal compliance pertaining to waste collection and their disposal facilities is shown on the following table.

Table 10: Legal compliance for the waste management facilities

Waste Management Facility	Licensed / Permitted	Operated according to license conditions or minimum requirements
Dutywa waste disposal site	Yes, for closure	Non - compliant
Elliotdale waste disposal site	Yes	Non - compliant
Willowvale waste disposal site	Yes, for closure	Non - compliant

The Dutywa and Willowvale waste disposal site is licensed for closure. Elliotdale waste disposal site is authorised. All three waste disposal sites are not being operated according to license conditions or the Minimum Requirements for Waste Disposal by Waste disposal site 1998. The municipality therefore does not fully comply with the applicable legislation and steps will have to be taken to correct this.

5.7.2 Municipal By-Law Pertaining to Waste (Status quo

The Municipality has a current set of by-laws. The Municipality at its discretion may set local waste service standards for waste separation, compacting of waste, management and disposal of solid waste, amongst others. The local standards must be aligned with any provincial and national norms and standards where these exist.

The Municipality may also require transporters of waste to register on a list of waste transporters. In assessing the National Environmental Management: Waste Act, it was evident that clear responsibilities are assigned to each sphere of government in relation to waste management activities.

The following section describes how the by-laws must be drafted according to Chapter 4 Part 6 of NEMWA and how the strategic priorities for the disposal of waste needs to be implemented in terms of the regulatory framework provided by NEMWA. Chapter 4 Part 6 of NEMWA prohibits the unauthorised disposal of waste, and requires that where there is no household waste collection service the waste must be disposed of in the most environmentally and economically feasible manner. Section 26(1)(b) requires that waste disposal must be explicitly authorised and accomplished without polluting the environment or harming human health and well-being.

In terms of Section 68(1) of NEMWA a maximum penalty of R10,000,000 or a jail sentence of up to 10 years can be imposed for unauthorised waste disposal, depending on the severity of the impact on health and the environment.

Section 27(1) of NEMWA provides regulatory instruments focused specifically on littering. It stipulates that private land owners that provide public access to their property must provide suitable receptacles for litter and ensure that it is disposed of (in an authorised manner) before it becomes a nuisance. This is reinforced by Section 27 (2), which prohibits littering of public places by individuals.

In terms of Section 68(2) a maximum fine up to R5,000,000 or imprisonment for up to 5 years can be imposed for littering offences, depending on the severity of the offence.

The waste disposal and anti-littering measures provided in NEMWA must be implemented through the aligned by-laws and should be enforced by local law enforcement agencies. These measures should be seen as providing the minimum requirements that need to be implemented in terms of the by-laws.

Proper provision for monitoring, compliance, and enforcement, as well as the role of the Municipal Waste Management Officers (WMOs) should be described in the existing draft by-laws. Their duties should be limited to the regulatory aspects of NEMWA, whilst service-delivery should be fulfilled by other waste management personnel.

The responsibilities of the WMO in the Municipality will be as follows:

- Stakeholder management in relation to implementation of NEMWA.
- Liaison with Environmental Management Inspector (EMI) compliance monitoring activities in the Municipality.
- Municipal and local IWMP: alignment of planning and reporting cycles.
- Capacity building in relation to NEMWA implementation.
- Monitoring adherence to norms and standards in the delivery of waste services.

Chapter 7 of NEMWA addresses compliance and enforcement matters and stipulates the powers of the Minister in relation to the NEMWA provisions for:

- Preventing and remedying the effects of pollution.
- Rectifying contraventions of NEMWA.
- Obtaining a high court interdict against any person contravening the NEMWA.

Chapter 7, Section 66 of the Act provides for Waste Impact Reports which can be requested by EMIs in cases where a contravention of the Waste Act is suspected and by WMOs where a review of a waste management license is undertaken.

Section 67 of NEMWA lists provisions of NEMWA which constitute an offence if not complied with. The penalties for the offences are listed in section 68 of NEMWA, as mentioned earlier in this section of the report.

Section 6(1)(e) of NEMWA requires that the National Waste Management Strategy provides approaches for securing compliance with the provisions of NEMWA, including “monitoring of compliance”. Effective capacity to undertake compliance monitoring and the concomitant action where required is essential for the achievement of the objectives of NEMWA.

Chapter 7 of the National Environmental Management Act, 107 of 1998 (NEMA) provides for Environmental Management Inspectors (EMIs) to be designated by the Minister and MECs. EMIs are situated at all three levels of government. A key principle to inform the allocation of responsibilities is that an institution cannot police itself. A principle specifically relevant to the

Municipality is that in circumstances where the NEMWA act regulates or controls issues that are typically covered by the by-laws and that fall within the competence of the local Municipality (e.g. public nuisance/cleansing), these issues needs to be dealt with by the Local Municipality.

The Department of Environmental Affairs will develop norms and standards which will be promulgated in terms of Section 7(1) of the Waste Act. The by-laws can refer to these norms and standards which will address norms and standards for the operation, maintenance and reporting requirements for general waste disposal sites that will be built on the existing Minimum Requirements for Waste Disposal by Waste disposal site guidelines.

The Municipality should take cognisance of the indigent policy on the provision of free basic services. Reference to the criteria for qualification should be set out in the by-laws.

Chapter 4 of the National Domestic Waste Collection Standards can be incorporated into the amended by-laws. It addresses separation at source, collection of recyclable waste, receptacles, bulk containers, communal collection points and frequency of collection.

5.7.3 Illegal Dumping

Illegal dumping occurs within the entire municipal area. The municipality has indicated that in the informal settlements in particular there are a high occurrence of illegal dumping. Some of these illegal dumping areas can be characterised by disposable nappies due to the fact that no waste disposal infrastructure exists in the informal settlements. The Municipality has to collect this waste at an unnecessary cost. The Municipality does not have the resources or budget to collect this waste. No formalised strategies to prevent illegal disposal is currently in place.

The Municipality should budget for the purchasing of mass containers/waste skips to place in strategic places and open spaces where illegal dumping is regularly occurring and clean these skips at the local waste disposal site when filled. If illegal dumping still occurs next these skips people must take photos of the offender, where the offender should then be fined and the ethical person/photographer should be awarded.

The Municipality has recognised the need for education of the people regarding this practice in partnership with Department of Environmental Fisheries and Forestry through the Good Green Deeds program and other municipal awareness programs.

6. GAPS AND NEEDS ANALYSIS

After conducting a situational analysis with regard to waste management within the Municipality, certain needs pertaining to the waste disposal service in the Municipality were identified that requires attention. These needs are summarised below.

- The Dutywa waste disposal site is licenced for closure. The site is fenced but has no access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Dutywa waste disposal site according to license conditions.
- The Elliotdale waste disposal site is authorised, but is experiencing operational problems in varying degrees, but can attribute to a result of uneducated personnel as well as interference by uncontrolled reclaiming activities on daily operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.
- The Willowvale waste disposal site is licenced for closure. The site is fenced and has access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Willowvale waste disposal site according to license condition.
- Although the Municipality has an informal rural waste program in place there are no formalised recycling/ waste minimisation strategies in place within the Municipality. Educational and awareness programs should be encouraged by the Municipality to educate and inform community about recycling. The Municipality should realise the need for waste minimisation and should initiate the corresponding strategies in due time.
- The illegal disposal of waste is common within the Municipality especially in the informal settlements. The illegal disposal should be addressed in order to manage and minimise the illegal activities pertaining to waste disposal. No strategies to prevent illegal disposal is currently in place.

Recommendation:

- The Municipality should budget for the purchasing of mass containers/waste skips to place in strategic places and open spaces where illegal dumping is regularly occurring and clean these skips at the waste disposal site when filled. If illegal dumping still occurs next these skips people must take photos of the offender, where the offender should then be fined, and the ethical person/photographer should be awarded.

- The Municipality has as a set of By-Laws in place.

Recommendation:

The Municipal By-Law should be updated to address all aspects of the waste management hierarchy as required in terms of the NEMWA.

- The current organizational structure and human resources, including duties of the staff, delivering waste services within the Municipality is sufficient.

Recommendation:

- All waste management staff should have proper training to carry out their duties and their performance should be monitored periodically.
- The Municipality should ensure that all new developments that occur in the near future, must be included in the waste collection and disposal service delivery. It is essential that in conjunction with the Town Planning Section that future residential and business area expansions are catered for in terms of refuse removal. This will allow the Municipality to, at an early stage, determine the possible costs involved and therefore will be able to adjust their budget accordingly. This will allow the Municipality to service the new areas when they are developed.
- The Municipality need to improve on their current system of record keeping with regards to waste types and quantities that are being produced within the Municipality. An internal waste information system should be implemented and maintained to assist the municipality in the management of their waste division. The waste information system should also capture all information with regards to HCRW in the municipal area.
- The Mbhashe Municipal area has 29 residential clinics, 3 Community Health Centres (CHC) and 1 District hospital which is Madwaleni hospital, 6 mobile clinics and 7 functional health posts.

Recommendation:

- These clinics should have waste storage facilities to ensure safe storage of medical waste. Personnel at the clinics needs to be trained to ensure correct waste management practices are followed. All medical facilities must encourage recycling.
- The Municipality has a few waste management vehicles but is in a severe shortage of equipment for waste collection and waste disposal site operation.

Recommendation:

- The Municipality should develop a vehicle replacement plan which will also address equipment for waste disposal site operations as well as the extension of the vehicle fleet to incorporate any future developments.
- A Detailed financial investigation should be done by the Municipality to ring-fence the waste management function.
- To provide a cost-effective waste management service, the payment of service tariffs should be improved and the tariff structure should be investigated to be viable and be standardised. The distinction between the tariffs for waste collection at domestic, businesses and Government Institutions is supported and will ensure that the generators of waste pay for the waste they generate. This can also be an incentive for businesses and industries to minimise their waste streams.
- A complete transportation study can be considered to optimize waste collection and improve the overall lifetime of the waste collection vehicles.

7. PERFORMANCE OF THE MUNICIPALITY

The Municipality has increased the service delivery to all households and to indigents in the municipal area with 7.9%. With regard to the waste disposal facilities in the municipal area, the municipality has jurisdiction over three waste disposal sites which are authorised. The Municipality is experiencing staff shortages and shortages of waste management vehicles/equipment to render a sustainable waste management service. The Municipality has a set of By-Laws in place, but the Municipality should update the Municipal By-Law to address all aspects of the waste management hierarchy as required in terms of the NEMWA. In summary the Municipalities' performance can be seen as progressive but simultaneously there is room for improvement.

8. DESIRED END STATE

Introduction

Seven focus areas have been identified for the compilation of the IWMP for the Local Municipality. Based on the Gaps and Needs identified in the previous section, a Desired End State has been identified for each of the seven focus areas.

It is important to align the Desired End State in accordance with the National Waste Management Strategy. The official hierarchy adopted in the Government waste management hierarchy, in order of preference, is as follows:

- Waste avoidance
- Waste minimisation
- Waste re-use
- Waste recycling
- Waste treatment
- Waste disposal

It is important that there should be a target date by which these municipal strategic priorities are to be attained within the five years from the date the IWMP has been approved. The following timeframes are suggested for the strategic priorities:

- Immediate: 1 year
- Short-term: 2 to 3 years
- Medium term: 3 to 5 years
- Long term: 5 to 10 years

8.1 Safe and proper disposal of waste

This section relates to the development, upgrading and legal compliance of the waste disposal infrastructure. This includes the identification of new infrastructure required, the licensing of existing unlicensed facilities, upgrading of the current infrastructure as well as the improvement of waste management practices. Table 11 below provides the Desired End State for Waste Disposal Infrastructure in the Municipality.

Table 11: Desired End State for Safe and Proper Disposal of Waste

GOAL 1: ENSURE THE SAFE AND PROPER DISPOSAL OF WASTE			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
Train each waste disposal site manager in order to operate all waste disposal sites according to the license conditions.	Resolve the identified Operational shortcomings.	Continue operation according to license conditions.	Continue operation according to license conditions.
Closure of the Dutywa and Willowvale waste disposal sites and the feasibility should be investigated for the development a new waste disposal site within Dutywa or the extension of current waste disposal site in Dutywa.		Rehabilitation of closed sites.	Audit and monitor closed waste disposal sites to ensure no illegal activities occur at these closed sites.
Identify shortcomings with regards to the operational requirements.		Audit and monitor waste disposal site operations.	Continue operation according to license conditions.

8.2 Effective and efficient delivery of waste service

The shortcomings in the available waste collection infrastructure have been identified. This will involve possible waste receptacles, new developments, unserved areas and route planning. Table 12 below provides the Desired End State for Waste Collection in the Municipality.

Table 12: Desired End State for Waste Collection

GOAL 2: PROVIDE THE EFFECTIVE AND EFFICIENT DELIVERY OF WASTE SERVICES			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
Identify new developments in the municipal area.	Implement waste collection services to new developments.	Implement waste collection services to new developments.	Implement waste collection services to new developments.

Identify and compile a map or schedule of serviced and unserved areas within the municipality.	Identify various service points for the serviced and unserved areas (including indigents).	Extend waste services to ensure that 85% of all households have access to adequate levels of waste collection services by 2024.	Update and manage the schedule.
Establish receptacle requirements in all areas within the municipality.	Determine the funding requirements for receptacles.	Implement the receptacle distribution for the identified municipal areas.	Continue and extend the receptacle service.
Apply for funding through available funding mechanisms in order to conduct a Municipal Services Partnership (MSP) / Section 78 study.	Conduct MSP / Section 78 study.	Implement outcome.	

8.3 Effective and efficient delivery of waste service

This area involves the identification of shortcomings in the personnel, financial and equipment resources and development of strategies to ensure that the requirements are satisfied. The existing financial resources are analysed and new structures and strategies are developed. Table 13 below provides the Desired End State for Resource Extension in the Municipality.

Table 13: Desired End State for Resource Extension

GOAL 3: ENSURE SUFFICIENT RESOURCES TO PROVIDE AN EFFECTIVE WASTE MANAGEMENT SERVICE			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
<i>Personnel Resources</i>			
Review existing organogram of waste management personnel in terms of the NEMWA requirements.	Fill vacant positions and establish positions required for proper waste management.	Update organogram and appoint staff in vacant positions.	Update organogram and appoint staff in vacant positions.
<i>Financial Resources</i>			

Conduct a detail financial investigation for proper waste management budgeting.	Identify shortages in the budget and identify possible funding sources for these shortages and amend budget accordingly. Implement revised budget.	Identify shortages in the budget and identify possible funding sources for these shortages and amend budget accordingly. Implement revised budget.	Identify shortages in the budget and identify possible funding sources for these shortages and amend budget accordingly. Implement revised budget.
Review tariffs in terms of the tariffs policy which must adopted in terms of section 74 of the Municipal Systems Act.	Implement tariff model (as developed by DEA).	Implement tariff model and amend as required.	Implement tariff model and amend as required.
Develop strategy for proper revenue collection.	Implement revenue collection strategy.	Implement revenue collection strategy.	Implement revenue collection strategy.
Equipment Resources			
Review current waste equipment and identify equipment that needs maintenance and/or replacement. Identify shortages of equipment to render a sustainable waste management service.	Develop a waste vehicle/equipment replacement plan and acquire funding for the implementation of this replacement plan.	Replace equipment or extend vehicle fleet as required.	Update and amend equipment replacement plan and implement accordingly.

8.4 Waste minimisation

This section involves the identification of specific waste minimisation strategies. This can include separation and collection at source, outsourcing of reclamation activities and development of collection points throughout the area. Table 14 below provides the Desired End State for Waste Minimisation in the Municipality.

Table 14: Desired End State for Waste Minimisation

GOAL 4: PROMOTE WASTE MINIMISATION, RE-USE, RECYCLING AND RECOVERY			
Implementation Strategies			
Immediate	Short term	Medium term	Long term

Establish Municipal Recycling Forum with stakeholders and hold quarterly forum meetings to co-ordinate waste minimisation in order to encourage growth on the recycling section and to discuss possible initiatives for, or by, entrepreneurs.			
Conduct a study to determine whether the following are feasible: <ul style="list-style-type: none"> • Upgrade of current recycling/buy-back centre • Implementing separation at source Education and awareness campaigns.	Apply for funding through available funding mechanisms for the upgrading of the recycling/buy-back centre if feasible.	Operate and maintain the recycling/buy-back centre.	Operate and maintain the recycling/buy-back centre.
	If feasible, establish mechanisms for promoting separation at source.	Roll out separation at source to 30% of households.	Roll out separation at source to 70% of households.

8.5 Compliance with legislative requirements

This relates especially to illegal dumping activities within the municipal area. This involves identification of possible illegal dumping hot spots, development of clean up and anti-dumping campaigns, possible revision of by-laws as well as revision of collection strategies. Table 15 below provides the Desired End State for the Management of Illegal Activities in the Municipality.

Table 15: Desired End State for Management of Illegal Activities

GOAL 5: ENSURE THE DEVELOPMENT OF LEGISLATIVE TOOLS TO ENFORCE THE WASTE ACT AND OTHER APPLICABLE LEGISLATION			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
Update the by-laws to address the NEMWA requirements.	Promulgate by-laws.	Proper enforcement of by-laws.	Proper enforcement of by-laws and amend if necessary.
Develop a system for residents to report waste transgressions, for example illegal dumping.	Implement system.	Implement system.	Implement system.

GOAL 5: ENSURE THE DEVELOPMENT OF LEGISLATIVE TOOLS TO ENFORCE THE WASTE ACT AND OTHER APPLICABLE LEGISLATION

Implementation Strategies			
Immediate	Short term	Medium term	Long term
Ensure compliance by medical facilities in the municipal areas.	Audit and implement corrective action	Audit and implement corrective action	Audit and implement corrective action

8.6 Waste information system

This section covers the need for effective record keeping and development of a Waste Information System (WIS) as well as the sharing of available information and the co-operation of the various stakeholders within the Municipality. Table 16 below provides the Desired End State for Waste Information System in the Municipality.

Table 16: Desired End State for Waste Information System

GOAL 6: WASTE INFORMATION SYSTEM TO ACHIEVE WASTE MANAGEMENT PLANNING			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
Maintain Waste Information System (WIS).	Keep proper records of waste quantities and types received at each waste disposal site. Provide information to the District Municipality.	Use records for proper planning and decision making.	Ensure that the future planning is effectively carried out.
Update and Maintain the database of all industries, waste disposal sites and medical facilities in the municipal area.	Monitor and ensure that all industrial and HCRW is disposed of in a responsible manner.	Monitor and ensure that all industrial and HCRW is disposed of in a responsible manner.	Monitor and ensure that all industrial and HCRW is disposed of in a responsible manner.

8.7 Education and awareness

This section addresses the need for education and awareness campaigns to be launched with regards to proper waste management. This can take place on a community level as well

on a more strategic level between stakeholders. Table 17 below provides the Desired End State for Education and Awareness in the Municipality.

Table 17: Desired End State for Education and Awareness

GOAL 7: ENSURE THAT PEOPLE ARE AWARE OF THE IMPACT OF WASTE ON THEIR HEALTH, WELL-BEING AND THE ENVIRONMENT			
Implementation Strategies			
Immediate	Short term	Medium term	Long term
Recruit environmental/ waste education personnel.	Develop an education and awareness strategy and training materials to roll out education and awareness campaigns.	Continue and revise implementation of education and awareness campaigns in a sustainable manner.	Continue and revise implementation of education and awareness campaigns in a sustainable manner.
Develop an awareness campaign with regards to waste minimisation and the hierarchy of waste management.	Launch awareness campaign in the community, e.g. recycling competition at school level.	Amend and continue awareness campaign in order to reach entire community.	Amend and continue awareness campaign in order to reach entire community.
Develop information dissemination strategies between all stakeholders.	Implement information dissemination strategy, for example build community awareness through education.	Implement information dissemination strategy, for example communicate with stakeholders on a regular basis in the form of forums or workshops.	Implement and amend information dissemination strategy in order to ensure adequate communication between stakeholders.
Train waste disposal facility supervisor / operators to ensure disposal facilities can be operated in accordance with the license requirements.			

9. GOALS AND OBJECTIVES

The following sections outline the goals and targets identified and the possible alternatives for each.

9.1 Waste Disposal Infrastructure

Goal 1: Improve and develop infrastructure to comply with legislative requirements and municipal needs.

Targets:

1. Ensure that all the waste disposal sites in the Municipality are licensed and comply with legislative requirements.

9.1.1 Target 1: Ensure that all the waste disposal sites in the Municipality are licensed and comply with legislative requirements

As indicated in the “Situation Analysis Report”, the Municipality has jurisdiction over 3 waste disposal sites namely Dutywa waste disposal site, Elliotdale waste disposal site and Willowvale waste disposal site. The Dutywa and Willowvale waste disposal sites are licensed for closure, and the Elliotdale waste disposal site is authorised for operational.

The Dutywa waste disposal site is located approximately 2.5 km south east of the town and utilised for disposal purposes. The site is fenced but has no access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Dutywa waste disposal site according to license condition.

The Elliotdale waste disposal site is licensed, but is experiencing operational problems in varying degrees, but can be mainly as a result of uneducated personnel as well as interference by uncontrolled reclaiming activities on daily operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.

The Willowvale waste disposal site is located approximately 1km north east of the town and utilised for disposal purposes. The waste disposal site is small with relatively small volumes of waste being disposed. The site is fenced and has access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Willowvale waste disposal site according to license conditions.

The Municipality should ensure that the abovementioned waste disposal facilities should be operated in accordance with their license conditions and/or as per the Minimum Requirements for Waste Disposal by Landfill (Second Edition 1998) as accepted practice. There is no waste management equipment present on the sites to utilise during site operations. The operations at these waste disposal sites should be upgraded to comply with Minimum Requirements.

It is proposed that the Dutywa and Willowvale waste disposal sites are to be closed and rehabilitated in accordance to the license conditions for closure of each waste disposal site. The feasibility should be investigated for the development a new waste disposal site within Dutywa or the extension of current waste disposal site and the establishment of a small transfer station in Willowvale, from where waste can be transferred to the Dutywa waste disposal site. The “proposed” transfer station in Willowvale do not have to be licensed (throughput of less than 100m³ of waste per day), and therefore falls under a Category C listed Activity which only requires conformance to the National Norms and Standards for the Storage of Waste.

Regionalisation seems to have become the trend of the future when it comes to waste management. Regionalisation can be defined as a licensed centralised waste management facility that receives waste for treatment, handling, and final disposal from multiple collection points over an entire municipal area. In order for a regionalisation option to be feasible the transport from a transfer station to a waste disposal site should not exceed 50km from experience. Due to the distances between the towns Dutywa, Willowvale and Elliotdale, regionalisation is seen as an impractical and not feasible alternative option.

Alternative:

1. Outsourcing of waste management at the Dutywa, Elliotdale and Willowvale waste disposal sites.

Alternative: Outsourcing of waste management at the Dutywa, Elliotdale and Willowvale waste disposal sites.

In order to establish the feasibility to outsource the management of the Dutywa, Elliotdale and Willowvale waste disposal sites within the Municipality, a Section 78 service delivery assessment should be conducted. A Section 78 (S78) assessment is a process required by the Municipal Systems Act (2000) to assess potential service delivery mechanisms for the provision of a municipal service. The S78 assessment is a strategic decision-making process that may have long term service delivery implications. The purpose of a S78 assessment for waste management services is to select the most appropriate service delivery mechanism(s) that will ensure access to efficient, affordable, economical and sustainable waste management services at the waste disposal sites.

Analysis for alternative:

A Section 78 (S78) assessment will cost the Municipality an estimated R 600,000.00 per study. The cost – benefit of outsourcing of the municipalities' waste disposal site operations can only be determined after the study has been completed. It is therefore recommended that the Municipality allows for the study within their municipal budget in order to analyse the possible advantages to privatise the Dutywa, Elliotdale and Willowvale waste disposal sites operations.

Possible benefits of outsourcing of the Dutywa, Elliotdale and Willowvale waste disposal sites operations could include:

1. Reduced operating cost of the waste disposal site;
2. Reduced capital expenditure for the Municipality in terms of plant and equipment procurement;
3. Reduced operational expenditure in terms of salaries;
4. Improved operation of the waste disposal sites.

9.1.2 Legal requirements/framework

All waste disposal facilities should be licensed in terms of Section 45 of NEMWA.

9.1.3 Resources and finances

- Municipal Budget
- Municipal Infrastructure Grants or Special Municipal Infrastructure Fund.
- National Government three-year cycle and business plans have to be submitted and funds made available to District Municipalities.

9.1.4 The implications should there be lack of action on the strategic goal 1

If goal 1 is not implemented, the municipality will experience environmental impacts associated with landfilling such as the contamination of underground water resources, poorly run waste disposal facilities posing health and safety challenges to workers and reclaimers.

9.2 Waste Collection**Goal 2: Provide effective waste collection.****Targets:**

1. Maintain current service delivery to all areas within the Municipality and extend service delivery to all indigent populations where possible.
2. Effectively plan to extend service delivery to any new developments within the Municipality.
3. Conduct a transportation study to identify and optimise collection routes and number of service points.
4. Establish receptacle requirements within the Municipality and supply the receptacles to residents in order to optimise collection efforts.

9.2.1 Target 1: Maintain current service delivery to all areas within the Municipality and extend service delivery to all indigent populations where possible

The Municipality should maintain the current service delivery to all areas within the municipal area and extend the service delivery to all indigent households. The financial implications of the free basic refuse removal service to indigents should be determined to ensure that the cost shortfall not covered by the Equitable Share is budgeted for accordingly by the Municipality.

9.2.2 Target 2: Effectively plan to extend service delivery to any new developments within the Municipality

The Municipality should include new developments for the provision of a waste collection and disposal service. It is essential that that all future residential and business areas expansion are catered for in terms of refuse removal. This will allow the Municipality to, at an early stage, determine the possible costs involved and therefore will be able to adjust their budget accordingly. This will allow the Municipality to service the new areas when they are developed. As indicated in the Situational Analysis Report, there are currently no future residential developments proposed for the Municipality.

Alternative:

1. Outsource waste collection for new developments.

Analysis for alternative no 1:

The Municipality could enforce a strategy to ensure that any new developments within its jurisdiction should allow for an outsourcing of its waste collection service. This will exempt the Municipality for a waste collection service to these areas. Although this will work well with mid and high-income developments, low income developments will not be able to cater for this

requirement. The Municipality will have to allow for the planning and extension of the current collection capacity if any low-income housing developments take place.

9.2.3 Target 3: Conduct a transportation study to identify and optimise collection routes and number of service points

Transportation is an expensive component in the waste management cycle due to high fuel prices and vehicle wear and tear. Although it may seem to be a cost saving by reducing the number of trips required to transport the same volume of waste, overloading of vehicles increases wear and tear.

It is proposed that the Municipality conduct a transportation study to identify and optimise the waste transport system. Simple logical systems can be put in place (e.g. effective use of available infrastructure and resources). Larger municipalities might find optimisation models useful to determine the most cost-effective transportation systems.

Alternative:

1. Alternative vehicle and transport options.

Analysis for alternative no 1:

Looking at alternative more efficient and cheaper transport systems is encouraged, especially where such alternatives already exist and there will be no additional capital costs required to establish them. This could for example be one of the outcomes of the route optimisation study.

9.2.4 Target 4: Establish receptacle requirements within the Municipality and supply the receptacles to residents in order to optimise collection efforts

It is recommended that the Municipality investigates the option to standardise to best use and supply the selected receptacles to the different communities within the Municipality. The cost of the supply of the receptacles should be carried by the individual property owner to defray the financial burden on the Municipality and to ensure that the individual owners take care of their receptacles. A phased-out approach can be considered by the Municipality to indigents in the municipal area.

The following must be considered when selecting suitable receptacles:

1. **Cost:** Wheelie bins are more costly than plastic bags but have a longer lifespan.

2. **Size:** The size of the receptacle will be determined by the bulk (volume) of non-recyclable waste generated by an average household in a certain area. The frequency of collection must be considered, as frequencies less than once a week become a health hazard in South African climatic conditions. The maximum size of receptacles for a household is therefore set at 240l.
3. **Pollution:** Plastic bags create an additional source of pollution if not re-used and/or recycled.
4. **Compatibility:** The receptacles must be compatible with the type of collection vehicle. In areas where wheelie bins will be feasible, wheelie bins must be phased in as and when transport vehicles that are currently not compatible with wheelie bins are replaced. However, compactor trucks may not be the best method of collection for mixed recyclables, nor for the collection of non-recyclables with low compaction potential.
5. **Handling:** The receptacles must be easy to handle by the household and the Service Provider/Municipality and must be easy to clean and have no sharp edges. However, some high-density areas on steep slopes (although there might be proper roads for trucks) might need other types of receptacles than areas on flat ground.
6. **Vermin and vector control:** The receptacles must be impermeable to vermin and flies. This implies that receptacles must not allow moisture or rain water to enter and must not discharge any leachate.
7. **Durability:** The receptacles must be fairly resistant to mechanical damage as well as be “animal proof”. Various domestic and other animals damage receptacles in search of food.
8. **Availability:** The receptacles must be freely available in the market at competitive prices (to both the Municipality and consumers as the case may be).
9. **Number of receptacles:** The size of the household and the volume of waste generated will determine the number of receptacles required. A fixed number can be provided per household and additional receptacles on request and possibly at a cost to the household.

The following specifications are applicable to all receptacles for domestic waste collection.

1. Receptacles for the storage of non-recyclable and recyclable waste must be easily distinguishable.

2. Receptacles for the storage of non-recyclable waste at households must be:
 - Fit for the safe storage of waste
 - Such that pollution of the environment and harm to health are prevented
 - Rigid and durable to within reason prevent accidental tipping, accidental spillage and leaking;
 - Intact and not corroded or worn out;
 - Covered to ensure that animals and insects cannot enter and that the waste cannot be blown away; and,
 - Not bigger than 240l.
3. Each household supplied with a bin or wheelie bin takes responsibility for the hygiene as well as safekeeping of the bin, and must not purposely damage it or use it for any other purpose than for keeping waste until collection day;
4. The Service Provider/Municipality must take care to return the emptied receptacle to the same household from where it was collected for emptying;
5. Where returnable receptacles are in use, household members must mark his or her receptacle to assist the Service Provider/Municipality in returning the receptacle to the same household from where it was collected; and,
6. Elderly and disabled persons' households must have the choice to use smaller receptacles or bins that handle more easily than the standard bins provided by the Municipality.

Bulk Containers

Where bulk containers are the most applicable receptacle, the same standards apply as for receptacles as stipulated above. In addition, bulk containers must be fitted with reflectors and where appropriate be placed next to a platform for ease of access.

A formalised domestic waste collection system must be provided to transfer the waste from individual households to the bulk containers in cases where such containers are used for domestic waste. The job creation potential (i.e. involvement of community contractors) of such a domestic waste collection system must be optimised in favour of the local community.

It must be noted that skips are designed for collection of bulky waste such as building rubble or “hard” garden waste which will not become windblown during transportation. Skips are therefore not appropriate for domestic waste collection unless appropriate measures are put in place to prevent windblown litter from the skips i.e. covering nets.

Communal collection points

Communal collection points must be clearly demarcated areas with appropriate receptacles where household waste can be deposited for collection by the Service Provider/Municipality.

The Municipality must ensure that communal collection points are kept tidy at all times.

The receptacles must be:

1. Covered so as to prevent windblown litter; and
2. User friendly to allow even children and disabled persons to safely deposit waste into the receptacles.

The collection points must:

1. Be easily accessible for waste collection vehicles; and
2. Encourage waste separation at source.

Frequency of collection

Acknowledging that waste minimisation is encouraged; the frequency of waste collection must not encourage illegal dumping or cause a nuisance in terms of odours and volumes of waste being stored. Non-recyclable waste must be removed at least once a week.

Recyclable waste must be removed at least once every two weeks and removal must be coordinated with industry (the users of the recyclables) to minimise costs and the clogging of space at transfer stations and depots.

Waste deposited at communal collection points must be collected within 24 hours of receptacles being reported as full or at regular intervals so as not to attract vermin and increase health risks.

Bulk containers must be collected once filled up or within 24 hours of being reported as full, but not less than once a week.

Frequency of collection of recyclable and non-recyclable waste may differ depending on:

1. The size of the bins provided and the volumes of waste generated;
2. The area of collection in terms of:
 - type of service provided including types of vehicles and equipment used, and

- distances between collection points and disposal sites to minimise transport costs.

3. Climatic conditions - In South Africa's hot weather conditions, the collection of non-recyclable waste less than once a week is a health hazard.

9.2.5 Legal requirements/framework

Equitable waste collection services must be provided to all households within the jurisdiction of the Municipality. The Municipality should adhere to the National Waste Collection Standards developed by DEA. These standards can be included in the waste management by-laws that are necessary to enforce waste collection practises. The Municipality should also take cognisance of the indigent policy to provide free waste collection services to those who cannot afford the service.

Weekly kerbside collection for all households in major towns are recommended with a community-based waste collection system (making use of locals) recommended for densely populated areas such as informal settlements, which is not easy accessible, to collect waste to a centralised collection area from where the Municipality can collect the waste for disposal at a suitable or licensed waste management facility i.e. Dutywa, Elliotdale and Willowvale waste disposal sites.

9.2.6 Resources and finances

Funding sources are the municipal budget and Equitable Share for assistance to provide free basic services to indigents. The organizational capacity and current staff compliment within the Waste and Environmental Management Department of the Municipality is deemed to be sufficient to service the existing households/service points.

In general, should any future need arise and if future development results in an unmanageable impact on the waste service delivery, the organizational capacity will be increased accordingly and will at all times comply with the requirements of NEM:WA. It is recommended that the Manager: Waste and Environmental Management also acts as Waste Management Officer (WMO) as per requirement of NEM:WA with associated duties.

9.2.7 The implications should there be lack of action on the strategic goal 2

- The Municipality will be in contravention of the National policy for the provision of basic refuse removal services to indigent households which requires that waste collection services should be delivered to indigent households.

- Will not contribute to government targets (Outcome 10 targets) which aim to increase the number of households receiving a waste collection service to 95% of urban households and 75% of rural households by 2024. (National Waste Management Strategy, November 2011 by Department of Environment Affairs and Tourism). This National Waste Management Strategy is currently (2017/2018) being reviewed and new targets will be set which Municipalities need to adhere to.
- Further, it will contravene any applicable municipal by-laws including the Municipality's Constitutional obligation on the delivery of waste collection services.
- The poor and the most vulnerable will continue to live in unhygienic conditions posing health and safety challenges such as vector borne diseases.

9.3 Resource Extension

Goal 3: Provide an Effective and a Cost-Efficient Waste Management Service

Targets:

1. Effective structure and extension of human resources,
2. Extend and maintain waste collection fleet for service delivery,
3. Effective financial management for waste management,
4. Implement improved tariff model, and
5. Decrease non – payment of tariffs.

9.3.1 Target 1: Effective structure and extension of human resources.

It is recommended that the Municipality compile a detailed organogram of waste management personnel and first fill any vacant positions. Thereafter the need for additional positions should be identified, the organogram updated and the new vacant positions filled.

The organizational capacity and current staff compliment within the Waste and Environmental Management Department of the Municipality is deemed to be sufficient to service the existing households/service points. The Municipality must ensure that the vacant positions are filled with suitably qualified personnel and that the personnel receive the training required to fulfil their duties effectively.

Depending on the level of training required, general labourer versus compactor operator, it has to be decided whether to provide in-house training or whether to provide the employee

with specialised training. In-house training should only be attempted if the capacity and knowledge exist within the Municipality. Based on the fact that, for lower level employees the knowledge is available within the Municipality, it is recommended that experts be obtained to provide more specialised training.

9.3.2 Target 2: Extend and maintain waste collection fleet for service delivery.

The Municipality has a few waste management vehicles but is in a severe shortage of equipment for collection and waste disposal site operation. The correct type and numbers of vehicles which is required for delivery of waste management services is a major contributing factor for the Municipality to ensure effective and efficient waste service delivery. It was found that only a few of these vehicles were operational, while the remainder of the vehicles were faulty. It is evident that the vehicles required for waste service delivery are not performing optimally as many of the vehicles require service and maintenance.

The vehicle fleet will have to be extended once waste collection services are extended to new areas when they are developed. It is imperative that the Municipality should compile a vehicle replacement plan to ensure that future planning for the replacement of the vehicles is done at the appropriate time. Fleet Management must allocate a budget to purchase new vehicles for operational purposes within the waste department. Collaboration is required with the fleet management section of the Municipality and external service providers to ensure that turn-around time for servicing the waste fleet is reduced.

Collection vehicles that are the most appropriate for the specific task and geographical terrain must be used. Collection vehicles used for the collection of non-recyclable waste might not be appropriate for the collection of recyclable waste.

Consideration must be given to the following:

1. Type of waste to be removed - recyclable or non-recyclable;
2. The geographical area of collection;
3. The method of collection - e.g. whether the receptacles in use need specialised equipment to be lifted or not;
4. How much each type of waste can be compacted;
5. Any leachate forming when compacting the waste;
6. Whether different types of recyclables are collected in one receptacle at the households;

7. Collection vehicles, used for the collection and transportation of waste must not be used for any other purpose while collecting and transporting waste;
8. Health issues (regular cleaning of the vehicles is required) must be considered;
9. Waste must be collected and transported in closed vehicles (covered to ensure no windblown litter generation) to prevent littering during transportation. Non-compatible vehicles must be phased out.
10. Maintenance schedules must be adhered to and roadworthiness of vehicles ensured where applicable in order to ensure a reliable waste collection service.

Alternative:

1. Outsourcing of Waste Collection.
2. Waste collection by community-based collection models

Alternative 1: Outsourcing of Waste Collection.

Analysis for alternative no 1:

A Section 78 (S78) assessment is a process required by the Municipal Systems Act (2000) and will cost the Municipality an estimated R600 000-00 per study. The cost – benefit of outsourcing of the municipalities' waste collection services can only be determined after the study has been completed. It is therefore recommended that the Municipality allows for the study within their municipal budget in order to analyse the possible advantages to privatise the collection of waste within its boundaries.

Possible benefits of outsourcing of the waste collection services could include:

1. Reduced operating cost of waste collection,
2. Reduced capital expenditure for the Municipality in terms of trucks and equipment procurement,
3. Reduced operational expenditure in terms of salaries,
4. Improved waste collection services within the municipal area.

Alternative 2: Waste collection by community-based collection models.

Locals can be used to service densely populated settlements such as informal settlements. Increase SME participation by encouraging locals to explore opportunities in waste through using labour intensive collection models.

The main aim is to increase the number of households receiving a waste collection service and by promoting labour intensive collection methods a municipality could realize other spin offs such as creating job opportunities as well as encouraging entrepreneurship.

More information on a community-based waste collection system is as follows:

Collection in informal settlements is hampered by poor access and lack of roads within the settlements themselves. As such, conventional collection vehicles (compactors) cannot access individual households and therefore providing an individual household service in these areas is impossible. Furthermore, the lack of title and ownership of property restricts municipalities' collection budgets, as rates are not collected in these areas.

People living in informal settlements have the right to basic services including waste collection. Informal settlements are typically serviced at the expense of ratepayers. All municipalities have pro-poor or indigent policies that cater for the poor people who cannot afford to pay for the municipal services.

Some key obstacles with regards to financing free basic services are discussed below.

- There is no financial recovery for the waste service in informal settlements in the form of rates. It is recommended that an innovation tariff system be implemented by the Municipalities whereby tariffs are linked to waste volumes produced by the households. The municipality charges ratepayers only for the amount of waste that is collected by the municipality. The result of this has been that ratepayers are encouraged to recycle and thereby reduce the amount of waste generated.
- No billing system can be established for informal settlements as there is no title or ownership structure for individual houses. In order to meet the basic needs for all the residents in the municipalities, the municipalities must ensure that indigent residents have access to free lifeline basic services. The indigent and pro poor policies force the municipalities to render free basic services to the people who cannot afford to pay for such services.
- To provide services in the unserved areas of the Municipality seems to be a daunting and impossible task. However, a solution recommended was found in the communities themselves providing the service. And therefore, a different approach was needed - one in which the entire community would benefit and the local authority could achieve its service delivery goal.
- A community-based refuse collection business model allows the municipality to achieve their service delivery goals by providing efficient, sustainable waste management

services while at the same time answering to the wider need for government and the private sector to promote Black Economic Empowerment, create jobs, transfer skills and uplift communities. Waste collection is an ideal industry within which to create employment. It can be adapted to be labour intensive, instead of capital-intensive as is the case in many developed countries. The first step in establishing a community-based waste collection system for the unserved or rural areas is that local municipal councillors and community leaders must identify suitable community contractors within a designated area within the municipality. These are generally unemployed individuals, men and women, who show entrepreneurial and leadership qualities, are literate and have valid driver's licenses. Importantly, they are individuals who are accepted by the community.

- A contract is entered into between the municipality and a third party/ies in which the third party/ies agrees to sub-contract the collection service to community contractors, who are members of the community being serviced. The contractors commit to providing services to a defined standard; and the third party/ies agrees to train and assist the contractors set up and run their small businesses. The third party/ies arranges bank loans for the contractors to buy their vehicles and equipment, which they own from the first day of operating their businesses and also assists the contractors with all facets of establishing their businesses, from finding premises, to recruiting staff, from the legal aspects to financial and administrative systems.
- The contractors are put through a five-year training programme in the management of small businesses, which has been accredited by the University of South Africa. The third party/ies remains involved throughout the entire contract period, which is usually five years. This is a key element of its success, since most new enterprises fail because the owners can perform the technical work but have no administrative experience. On-going service provision includes financial management support, quality control and community liaison.
- The waste collection skills needed are easily taught and can be supplemented in a way that allows the new waste management entrepreneurs to remain in control of their own businesses. Jobs are created within the community for formerly unemployed and unemployable men and women, helping people in these communities prosper. Their environment is also far cleaner and healthier. As a result, they are more able and willing to contribute a small monthly payment for waste removal services. Typically, each

contractor employs 12 to 16 people from within the local community to service 5000 collection points, and the programme endeavours to spend at least 70 per cent of the contract revenue within the community by way of salaries and wages, diesel purchases and consumables

9.3.3 Target 3: Effective financial management for waste management

It is recommended that a detailed financial investigation be conducted by the Municipality which will address the following:

- Operational management of vehicles, salaries, etc.
- Basic service allocation (appropriation) from MIG funding (including total allocation for indigents)
- Credit control
 - assessment of effective use of financial system & reporting ability
 - accessibility of pay points to the public
 - Customer Relationship Management (CRM)
 - Indigent Management with specific regard to allocate equitable share to the accounts
- Pricing & tariffs
 - Review policies & compile by-law for legal compliances including Tariff Policy, Credit Control, debt collection & Indigent Policy
 - Identify gaps in terms of legislation & policies
 - Identify operational non-compliance
 - Assess tariff costing mechanism or formula
 - High level exercise to determine actual cost of services delivered
 - Contribution of developers to bulk infrastructure
- Billing
 - Differentiation of household, business(s) for billing purposes
- Other issues
 - Budget management
 - Cash flow assessment
 - High level balance sheet review.

The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present. The Municipality must

also take cognizance of the draft policy on Free Basic Refuse removal and develop an action plan for implementation.

It is further recommended that a detailed financial investigation be undertaken to investigate the operational management of vehicles, salaries, basic service allocation, credit control, pricing and tariffs, and other issues i.e. budget management etc.

9.3.4 Target 4: Implement improved tariff model

To provide a cost-effective waste management service the tariff structure should be investigated to be viable and be standardised. A distinction between the tariffs for waste collection at domestic, businesses and Government Institutions should be made that will ensure that the generators of waste pay for the waste they generate. This can also be an incentive for businesses to minimise their waste streams.

The financial implications of the free basic refuse removal service to indigents should be determined to ensure that the cost shortfall not covered by the Equitable Share is budgeted for accordingly by the Municipality.

In South Africa, each local municipality has a unique set of parameters that influences waste service delivery and tariff charges. Parameters can vary from the type of waste removed, municipal infrastructure and budgeted expenditure on unique services. A comprehensive tariff study is needed to accommodate the following:

- Upgrading service delivery and introduction of waste services throughout the municipal area will entail standardising the service that is delivered to all the households in the area.
- All households must therefore be serviced on an equal basis, either by the Municipality or by the community.
- In the medium term it is important that the tariffs identified for service delivery is comparable throughout each local municipal area in the District.
- Over a longer, term services need to be identified and uniform tariffs implemented throughout the municipal area.
- The standardisation of the tariff structure will provide uniformity that may encourage payment of tariffs.
- Tariffs for additional services, including garden and commercial waste removal, should also be according to service delivery.

- The Municipality must also take cognizance of the draft policy on Free Basic Refuse removal and develop an action plan for implementation.

DEA has developed a standard tariff model that can be used as a base for implementation and adaption by the municipality for an implementation of an improved tariff model.

9.3.5 Target 5: Decrease non – payment of tariffs

To provide a cost-effective waste management service, the payment of service tariffs should be improved. Formal households as well as businesses currently serviced are billed on a monthly basis in conjunction with their water and electricity bills. Penalties for non-payment of accounts should therefore easily be enforced by withholding services. This however is an administrative problem that generally takes a long time.

The inclusion of more areas however, may increase the likelihood of non-payment by residents. A possible option is a pre-paid system similar to the one used for electricity. The system can be a coupon-based system where coupons can be bought in advance for a specific month. The negative aspect is that non-payment and subsequent non-delivery of services will lead to an increase in the instances of illegal dumping in the area. It is recommended that the pre-paid system be used in accordance with strategies to prevent illegal dumping in the municipal area. It would also be possible for the Municipality to retrieve some of the lost service fees from the Equitable Share.

9.3.6 Legal requirements/framework

Section 24 of The Constitution of the Republic of South Africa (Act No. 108 of 1996) gives every person a right to an environment that is not harmful to their health or well-being. Schedule 5B assigns the responsibility for waste collection services and disposal to local government. Furthermore, the delivery of municipal services is defined both in the Municipal Structures Act (Act No. 117 of 1998) and the Municipal Systems Act (Act No. 32 of 2000). In addition to the mandate outlined in The Constitution and the Municipal Systems and the Municipal Structures Acts, the Waste Act (Act No. 59 of 2008) requires municipalities to provide containers for recyclables, the waste information system and integrated waste management planning. The municipality must also draft waste management by-laws that are specific for their area of jurisdiction. The by-laws must be specific on the services that are provided and the charges and tariffs associated with the services. It must also provide for the regulation of services not provided. For example, if garden waste is not removed by the

municipality, regulations must state how communities must deal with this waste stream. It must provide for permits to be issued to private companies or persons providing the service on behalf of the municipality to allow control over these services. The by-laws should also make provision for the implementation of the waste management hierarchy. For example, the by-law may state that certain waste streams must be separated at source and taken to drop-off centres.

9.3.7 Resources and finances

Several financial resources options for the implementation of the various recommendations were identified.

- Municipal Budget (Shortage of Municipal funds)
- Municipal Infrastructure Grants or Special Municipal Infrastructure Fund. National Government three-year cycle and business plans have to be submitted and funds made available to District Municipalities
- Equitable Share provided by Government should be used for subsidising refuse removal tariffs.

9.3.8 The implications should there be lack of action on the strategic goal 3

If goal 3 is not implemented the municipality would not be able to provide the necessary waste management services as effective financial management and income generation if required for all aspects of management planning. Another problem is that due to the high demand for waste collection services and the limited resources available to municipalities, municipalities often find themselves having to work overtime. This practice is closely regulated by the municipal financial legislation as well as the labour laws. In trying to cope with the increased demand, municipalities often transgress these legislative prescripts of ensuring a certain maximum number of hours a worker can be expected to work overtime as well as the maximum amount of money a municipality can spend on overtime payments. The solution is to balance service delivery and available resources. Innovative planning of collection rounds and schedules can significantly cut the overtime required.

9.4 Waste Minimisation

Goal 4: Decrease waste deposited on landfill

Targets:

1. Formalise and encourage recycling activities.
2. Encourage waste minimisation.

9.4.1 Target 1: Formalise and encourage recycling activities.

In order to ensure maximum recycling in the Municipality, it is recommended that a formal agreement be reached with waste recycling industries and companies. These companies will then work together with potential waste recyclers in the municipal area. DEA has signed agreements with the plastic, glass, waste tyre and Poly-Ethylene Terephthalate (PET) industries. To this end, it is further recommended that the DEA be approached to facilitate the recycling of the aforementioned waste streams. In addition to this, appoint a Waste Specialist to enhance the current programmes and to identify, monitor and evaluate recycling opportunities and initiatives within the Municipality.

9.4.2 Target 2: Encourage waste minimisation

Waste minimisation at source is more effective than recycling since it reduces removal and transport costs. It is therefore recommended that waste sorting and minimisation be encouraged amongst the households and businesses within the Municipality.

9.4.3 Legal requirements/framework

Waste minimisation should be encouraged via by-laws that should be updated to make provision for the implementation of the waste management hierarchy.

9.4.4 Resources and finances

Several financial resources options for the implementation of the various recommendations were identified.

- Municipal Budget (Shortage of Municipal funds)
- Municipal Infrastructure Grants or Special Municipal Infrastructure Fund. National Government three-year cycle and business plans have to be submitted and funds made available to District Municipalities,
- Capital gains from the recycling market

9.4.5 The implications should there be lack of action on the strategic goal 4

If goal 4 is not implemented, the municipality will not adhere to the principles of the NEMWA and waste disposal site airspace will not be optimised.

9.5 Management of Illegal Activities

Goal 5: Minimise/prevent illegal activities

Targets:

1. Develop an Illegal Dumping Management Strategy.
2. Improve removal of illegally dumped waste.

9.5.1 Target 1: Develop an Illegal Dumping Management Strategy

The Municipality experiences problems with illegal dumping within its jurisdiction. This can either be attributed to a lack of an effective refuse removal service, or residents being unaware of their options regarding private waste disposal. It is anticipated that a certain portion of these activities will be eliminated through proper community awareness programs.

It is imperative that the Municipality develops and implements a system to minimise or stop illegal dumping within the Municipal area. The major problem facing the Municipalities is that they do not have the specific manpower to police the illegal disposal of waste. Within the serviced areas it is easier to regulate illegal dumping and introduce a penalty system for offenders. There are several actions the Municipalities can take to minimise illegal dumping and introduce such a penalty system.

The first is that the Municipal By-laws must be formulated/revised and be enforced in order to issue spot fines for residents caught dumping waste in illegal areas. This will to a certain degree reduce and prevent illegal dumping within the town boundaries. The disadvantage is that it will not reduce dumping outside the town boundary and it will increase the pressure on already limited human resources.

A second option will be to introduce community awareness whereby a community watch movement is introduced. This will limit the pressure on the human resources of the municipality as neighbourhood watch systems are put in place. Incentives such as discount on regular fees for “clean” neighbourhoods can be introduced to encourage these activities.

A third option is the provision of domestic waste skips at strategic locations, or establishing refuse drop-off stations, throughout the town to minimise travelling distances for the general public. The Municipalities can then remove the refuse on a monthly basis.

It is recommended that a combination of the above be implemented to find an effective solution to the illegal dumping of waste. The enforcement of the by-laws and policy and

strategy development by the municipalities will assist with the illegal dumping problem. Through community awareness and a neighbourhood watch system the residents will have all the information regarding the disposal of waste in their area. They will also be aware of the incentive scheme to prevent illegal dumping from taking place within their surrounds. To prevent illegal dumping outside of town, waste skips should be placed at strategic locations to provide convenient access to a disposal facility.

The costs of the skips are:

Table 18: Estimated Skip Costs

Estimated skip costs	
5.5 m³	R 7,000.00
6 m³	R 7,500.00
9 m³	R 9,000.00
11 m³	R 10,100.00

9.5.2 Target 2: Improve removal of illegally dumped waste

Illegal dumping of waste is common all over the Municipal area. The Municipality has to collect this waste at an unnecessary cost. The Municipality should clean all areas where waste is illegally dumped. The Municipality should place skips in “illegally dumping hot spot areas”, as well as notice boards to try and prevent further illegal dumping in these areas once cleaned.

9.5.3 Legal requirements/framework

Section 24 of The Constitution of the Republic of South Africa (Act No. 108 of 1996) gives every person a right to an environment that is not harmful to their health or well-being. Illegal dumping should be prevented by enforcing the waste management by-laws of the Municipality.

9.5.4 Resources and finances

Several financial resources options for the implementation of the various recommendations were identified.

- Municipal Budget (Shortage of Municipal funds)
- Municipal Infrastructure Grants or Special Municipal Infrastructure Fund. National Government three-year cycle and business plans have to be submitted and funds made available to District Municipalities

9.5.5 The implications should there be lack of action on the strategic goal 5

If goal 5 is not implemented, the municipal officials will not be able to enforce waste management requirements i.e. as set in by-laws. This will result in transgressions i.e. illegal dumping of waste. A system to involve residents to assist the municipal officials to report waste transgressions will help the short-staffed municipality to keep a watch full eye all over the municipal area.

9.6 Waste Information System

Goal 6: Capacity building through information sharing

Targets:

1. Develop and maintain a waste information system.
2. Contribute to Inter Municipal Waste Information Workshops.

9.6.1 Target 1: Develop and maintain a waste information system

The main target would be to develop and maintain a WIS. This system would allow for record-keeping of comprehensive records of waste disposal and collection on which informed decision-making can be based and to comply with the reporting requirements of the relevant Provincial authority.

The municipality should ensure that all medical and general waste produced by medical facilities and funeral parlours must also be incorporated into the Waste Information System. The costs involved in the development of a WIS will vary depending on the structure and contentiousness of the area.

DEFF has developed a generic WIS that may be provided to the Municipality for implementation.

9.6.2 Target 2: Contribute to Inter Municipal Waste Information Workshops

The current difference in service delivery management within the Eastern Cape Province necessitates that frequent information sharing sessions be held to share capacity building information. Another option is to provide quarterly reports regarding waste management to other Local Municipalities. It is proposed that the information sharing sessions would be the preferred option since it would allow for discussions on problems encountered and not only provide information. These quarterly meetings should be attended by all the Local Municipalities within the District Municipality as well as representatives from the relevant Provincial Environmental Department.

9.6.3 Legal requirements/framework

Any person (including the Municipality) conducting an existing waste management activity listed in Annexure 1 of the National Waste Information Regulations under Section 69(1)(y) and (ee) of NEMWA must apply to the DEA to be registered on the South African Waste Information System (SAWIS) to report on the types of waste, source from which waste comes from and quantity of waste in tons. The Regulations is applicable to waste disposal sites where more than 150 tons of waste is being disposed of per day.

9.6.4 Resources and finances

Several financial resources options for the implementation of the various recommendations were identified.

- Municipal Budget (Shortage of Municipal funds)

9.6.5 The implications should there be lack of action on the strategic goal 6

If goal 6 is not implemented, the performance within the municipal area will not improve. If personnel do not have the correct information at hand, they will not be able to properly plan and manage waste in their municipal area.

9.7 Education and Awareness

Goal 7: An educated community that is aware of the principles of responsible waste management

Targets:

1. Build Community Awareness.

9.7.1 Target 1: Build community awareness

The Municipality presently does not have any formal community awareness campaigns that are directed at informing the general community with regards to waste management.

A top down approach by the Municipality relies heavily on non-payment penalties to ensure that residents comply with legislation. Recycling and waste minimisation initiatives however, are not included in the normal service delivery and can only be effectively achieved with the co-operation of the residents.

It is therefore vitally important that the community is made aware of initiatives, waste recycling activities and the advantages of waste minimisation and recycling by the Municipality. This can either be achieved by advertisements and notices in the local newspapers or by providing information regarding these initiatives on the municipal bills distributed each month. The Municipality can also conduct road shows to demonstrate to and inform people of waste related issues.

An Awareness Campaign is crucial to make people aware of the Integrated Waste Management Plan of the Municipality. This awareness campaign needs to have the full support of the Municipality and other Government Departments. This campaign will need to look at an integrated approach to community awareness, this can include one or more of the following campaigns: -

- **A.** Site visits by schools, community groups and businesses to a recycling centre;
- **B.** Awareness programs at schools, crèches, hostels etc.;
- **C.** Town and school clean up campaigns, with prizes for the most waste collected;
- **D.** Awareness through plays, pantomimes, dances and song;
- **E.** Teaching of community members to use waste as a resource in their homes and to make crafts, which can be sold;
- **F.** Encouraging schools to establish recycling centres and use as much of the waste for arts, crafts, gardening and functional gadgets;
- **G.** Adopt a spot campaign;
- **H.** Environmental Clubs.

A. Site visits by schools, community groups and businesses to a recycling centre.

Each recycling centre will have trained staff that will be capable of handling visiting groups to the centre. This site visit will teach the visiting group exactly how a recycling centre is run. They will also be exposed to the downstream projects like the composting and vegetable gardens. These ideas can then be replicated at each of the schools or community houses.

B. Awareness programs at schools, crèches, and hostels

This will involve individual site visits to each school (Can be done by Provincial Environmental officials). Each school will be required to firstly arrange a clean-up campaign in and around the school. This waste is to be brought back to the school where it will be analysed. The students will be given the opportunity to find uses for each type of waste. They will also be shown examples of things made from waste. They will then be shown what to do with the waste. This could include crafts, swings, and sold as scrap for income, arts, handy tools, blocks or useful agricultural gadgets. The school will also be encouraged to establish a waste management system at the school. This could include a recycling centre and waste management policy.

The students will then be introduced to the competition. This will include the following: -

- Drawing and colouring in competition which depicts a dirty and clean environment
- Make any toy from waste.
- Make a recreational item from tyres.
- Make any handy item from a PET bottle.
- Make anything from tin.
- Make anything from paper or cardboard.
- Make anything from glass.

The above categories are distributed between the grades by the Principle. The Provincial Environmental Department can allocate a small budget for the materials needed; will allocate a time period where they will return to monitor the progress. On completion the schools submit their best examples to the judging committee.

The final judging will be done by prominent members of the community and ended off with a ceremony and prize giving for the best categories.

The other competition can be run by “Collect a Can”, plastic or glass recycling companies and will also be introduced to each school. This involves the collection of tin cans only at each school. The school is encouraged to collect cans from homes, functions and public

areas. These cans are sent to the recycling centre where the cans are weighed and documented. Each year the total tonnage is added up and submitted to Collect a Can Competition. The school with the most cans collected per school member wins a prize for the school.

C. Town and school clean up campaigns

Part of any waste program comes the initial cleaning up of the town, school or village. Here the local schools and church groups can be involved. To make the campaign more appealing there should be some sort of incentive like prizes, snacks or cash incentives for the schools benefit. This can easily be coordinated with the Department of Education and School heads.

Part of the clean-up would include a presentation on what the clean-up is all about and why it is being done. The opportunity should be taken to encourage the setting up of small recycling centres. On completion of the clean up the children will return to the respective schools with the waste collected. This waste will then be tipped out and analysed to see what types of waste was collected and why people threw it away in the first place. The students should then be encouraged to think of uses for the waste.

The Local Municipality will then take this waste away to the Dutywa, Elliotdale and Willowvale waste disposal sites.

D. Awareness through plays, pantomimes, dances and song

This campaign would also involve schools in the area. This would start with a visit to the relevant institution to introduce the program. The institution would then develop a pantomime, dance or song to encourage waste awareness. The group would be allocated a small budget to create costumes and props. They would then visit public meetings for school functions to promote waste awareness.

E. Teaching of community members to use waste as a resource in their homes and to make crafts from the waste

This approach would be encouraging any interested community member to use waste as a resource at their homes. Poor communities are normally the best recyclers and waste users as they have through necessity used waste to build their homes. Some ideas would be as follows: -

- Using 2l plastic bottles for rain gauges, funnel or for planting in.
- Using waste paper to make usable furniture, trays or bins.
- Using plastic bags to make bags, mats, jackets and hats. These items are of such good quality that they can be sold for income generation.
- Old glass bottles can be crushed and used to make concrete bricks and blocks.
- Tins can be used to make hats, lunch boxes, arty flowers and ashtrays.

F. Encouraging schools to establish recycling centres and use as much of the waste for arts, crafts, gardening and functional gadgets.

Schools can be taught how to use their waste for the arts and crafts programs or to be used in the vegetable gardens or be used to retain erosion banks.

G. Adopt a spot campaign.

The idea behind it is to encourage schools, businesses, Woman's groups, Municipalities etc. to adopt a part of the Municipality which is important to them. This might be a park area, which is over grown, dirty and vandalized. The nearby school can now adopt that site and it will be their responsibility to keep it in working order for the year. Sponsors can be approached to assist in fixing the park up of paying for tools and labour. A sign is then erected on site with the Adopted groups name on it.

H. Environmental Clubs

- The establishment of environmental youth clubs is seen as an integral part of the programme that has a potential to draw youth involvement into implementing environmental outreach programs.
- Ward Councillors could be encouraged to revive or set up environmental desks where street representatives could be allocated.
- The Provincial Environmental Department will be intimately involved in establishing these clubs.

I. Community Awareness

The neighbouring schools are also involved in school competitions and drama performances in order to strengthen the public awareness campaign. Although there will be efforts made to inform the community about waste management and the importance of the environment,

some community members will still burn their waste, hawkers will continue throwing waste on the ground despite the provision of waste bins for their convenience, the reason being they are creating more jobs for waste collection.

In order to enhance the public environmental awareness campaigns a few suggestions are made below:

- The environmental advisory unit within the Provincial Environmental Department should be engaged as their contribution could be enormous for the programme.
- The establishment of environmental youth clubs is seen as an integral part of the programme that has a potential to draw youth involvement into implementing environmental outreach programs.
- Community meetings, road shows, interaction through local radio station, door-to-door distribution of information are tools that should be implemented to encourage the recycling activities.
- Local schools should be encouraged to participate in recycling activities and environmental education should be involved in school curriculum.
- Ward Councillors could be encouraged to revive or set up environmental desks where street representatives could be allocated.
- Meeting with traditional leadership to encourage their ownership and communication of such initiatives into the rural areas.
- Publication of articles in local newspapers, printing of posters and information leaflets.

J. Workshops

Financial institutions should be engaging the community in environmental public awareness campaigns organized through workshops to inform the community about programmes and funders. The workshops should highlight to the community the importance of sorting their waste at home.

Although there were efforts made to inform the community about waste management and the importance of the environment, some community members still burn their waste, hawkers continue throwing waste on the ground despite the provision of waste bins for their convenience, the reason being they are creating more jobs for waste collection.

Public Information

The establishment of a library with lots of information on recycling, waste minimisation and integrated waste management. So, if you are looking for information, a central office which could be at the existing Municipal offices will have a selection of books on the above subjects and numerous national and international publications on waste issues.

10. FUNDING/RESOURCES AND FINANCES

The Municipality will have to source funding for the proposed goals and targets. The funding mechanisms used could be from internal sources (operational budgets) or outside sources like government departments, private sector, and international funders/donors.

Possible donor sources for the Municipality are as follows:

- Municipal Infrastructure grant (MIG)
- Department of Environment, Fisheries and Forestry (DEFF) - Various programmes and partnerships
- Department of Public Works (DPW) – Extended Public Works Programme (EPWP) for labour intensive construction methods.
- Department of Trade and Industry (DTI) – Various Programmes and Schemes
- Industrial Development Corporation (IDC) – Green Energy Fund
- Royal Danish Embassy (DANIDA)
- World Bank
- United Nations Development Programme

11. RECOMMENDATIONS

The following recommendations have been derived from the situation analysis and the desired end state:

Table 19: Recommendations

Target	Recommendations	Implementation Detail
Goal 1: Improve and develop infrastructure to comply with legislative requirements and municipal needs.		
Target 1: Ensure that all the waste disposal sites in the Municipality comply with legislative	It is proposed that the Dutywa and Willowvale waste disposal sites are to be closed and	Closure of the Dutywa and Willowvale waste disposal sites and disposal of waste in the Eastern Regional Solid Waste Site situated at Mnquma

Target	Recommendations	Implementation Detail
requirements.	<p>rehabilitated in terms of Section 45 of NEMWA.</p> <p>Provide training for waste disposal facility supervisors and operators.</p>	<p>(Butterworth)</p> <p>All the waste disposal sites are experiencing operational problems in varying degrees, but mainly as a result of uneducated personnel as well as interference by uncontrolled reclaiming activities on daily operations. The sites are not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.</p> <p>Funding need to be sourced for the filling of all waste management related vacancies and the sourcing of necessary equipment and infrastructure for waste management activities A phased approach needs to be followed via short, medium- and long-term goals.</p> <p>All site personnel should be upskilled to ensure the proper operation of all the waste disposal facilities in accordance with the license conditions.</p>
	<p>Regionalisation - Establish transfer station infrastructure facility in Willowvale with the unrecyclable waste disposed of at the regional disposal site in Mnquma</p>	<p>Establish formal transfer stations in Willowvale. This facility needs to be suitably located and properly designed.</p>
	<p>Conduct Audit - Management of waste disposal sites to maintain favourable operations</p>	<p>A professional service provider should be appointed on an annual basis to audit the Elliotdale, Willowvale and Dutywa waste disposal sites to ensure conformance to license conditions and/or minimum requirements. The waste disposal site audit report will enable the municipality to take corrective steps on non-conformance items in order to improve the management at the waste disposal site and in order to</p>

Target	Recommendations	Implementation Detail
		comply with applicable legislation.
	Prepare technical designs and put out tenders for the construction work for the establishment of the proposed transfer infrastructure facility in Willowvale.	A professional service provider should be appointed by the municipality to compile designs for the proposed transfer infrastructure facilities in Willowvale and to prepare drawings for construction. The service provider will also assist with the tender letting process and site supervision of the construction work.
Goal 2: Provide effective waste collection.		
Target 1: Improve current service delivery to all areas within the Municipality and extend service delivery to all indigent populations where possible	Maintain current status quo of 100% collection of waste, providing additional waste receptacles, expunging all waste dumping and littering in Urban and Rural Communities.	The Municipality should also ensure that programs geared at waste minimisation are properly communicated to all stakeholders and the meaningful enforcement is implemented.
Target 2: Effectively plan to extend service delivery to any new developments within the Municipality	Add services to new residential developments.	Extend services to include the proposed new developments in service delivery system.
Target 3: Conduct a transportation study to identify and optimise collection routes and number of service points	Optimise collection routes.	Amend and optimise collection routes.
Target 4: Establish receptacle requirements within the Municipality and supply the receptacles to residents in order to optimise collection efforts	Continue with current refuse collection system and phase in new receptacles.	Continue with current refuse removal system, but phase in Standard Refuse Receptacles with new collection equipment i.e. wheelie bins with REL compactor trucks.
Goal 3: Provide an effective and a cost-efficient waste management service.		
Target 1: Effective	Fill current vacant	The Municipality must ensure that all

Target	Recommendations	Implementation Detail
organisational structure and extension of human resources	positions, appoint and designate a Waste Management Officer , and employ additional staff to service new areas and to manage disposal and transfer facilities.	the vacant positions are filled with suitably qualified personnel.
	Employ new staff as vacancies develop.	Fill current vacant positions and create posts to extend human resources capacity to fulfil service requirements, if necessary.
	Provide training for low level staff and for specialised positions.	Locally train low level staff and provide specialised training for specialised positions and ensure proper training of contracted personnel.
Target 2: Extend and maintain waste collection fleet for service delivery	Implement equipment replacement plan.	Implement equipment replacement plan.
	Procure required equipment and replace equipment as and when required.	Ensure budgeting and/or funding is in place to procure and replace fleet as and when required by the equipment replacement plan.
	Maintain equipment.	Maintain current collection fleet and negotiate maintenance contracts with vehicle suppliers.
Target 3: Effective operational management for waste management	Perform Detailed Operational Investigation to establish efficient execution of waste management implementation processes	Draft Terms of Reference for the implementation of the operational management plan
Target 4: Implement improved tariff model	Evaluate Level of Service Delivery. Update Standardised Tariffs for Specific Levels of Service and update on a yearly basis	To provide a cost-effective waste management service, the payment of service tariffs should be improved and the tariff structure should be implemented to be viable and be standardised.
Target 5: Motivate payment of tariffs.	Investigate innovative ways to ensure payment of tariffs by constituency	Ensure enforcement of rates payment

Target	Recommendations	Implementation Detail
Set Goals and Targets for the implementation of by-laws	Update By-laws to comply with NEMWA requirements and Review and update by-laws on a yearly basis	Update By-laws to comply with NEMWA requirements and Review and update by-laws on a five-yearly basis.
Goal 4: Decrease waste deposited on landfill		
Target 1: Formalise Waste Drop off Centres and encourage recycling activities.	Compile a Waste Minimisation Strategy.	A Waste Minimisation Study should be undertaken in order to determine from existing and new initiatives the volumes of waste that is currently being recycled, re-used and recovered and should contain actions/recommendations on how to decrease the volumes of waste being landfilled.
	Place recycling containers throughout town.	Identify strategic locations throughout town and provide recycling containers on these locations.
	Add additional containers to service new development areas.	Add additional containers to service new development areas.
Target 2: Encourage waste minimisation	Promote waste minimisation with residents and businesses via awareness programs.	Promote waste minimisation with residents and businesses by: holding workshops, distributing waste information, schools programs etc
	Formal agreements between waste recycling industries and companies/businesses.	Formal agreements between waste recyclers and recycling companies/businesses. Approach DEA for assistance on their agreements with the plastic, glass, waste tyre and Poly-Ethylene Terephthalate (PET) industries. Identify, monitor and evaluate recycling opportunities and initiatives within the Municipal area.
	Establish Regular Waste Management Forum meetings with stakeholders to co-ordinate waste minimisation and to encourage growth on the recycling section.	Quarterly forum meetings with stakeholders to co-ordinate waste minimisation and to encourage growth on the recycling section.
Goal 5: Minimise/prevent illegal activities.		

Target	Recommendations	Implementation Detail
Target 1: Develop an Illegal Dumping prevention Strategy	Establish voluntary Community Watch Programme	Establish Community Watch Programme
	Provide Accessible Containers throughout Towns and Settlements to prevent illegal dumping	Provide Accessible Containers throughout Towns and Settlements to prevent illegal dumping
Target 2: Improve removal of illegally dumped waste	Clean Illegal Dumping Hot Spot Areas. Develop open space management plan	Clean Illegal Dumping Hot Spot Areas. Put up NO DUMPING signs informing where waste is disposed
Goal 6: Capacity building through information sharing		
Target 1: Develop and maintain a waste information system	Develop WIS	Disseminate/publish WIS information
	Maintain and update WIS as the situation changes in the Municipality	Maintain and update WIS as the situation changes in the Municipality.
Target 2: Contribute to Inter Municipal Waste Information Workshops	Attend workshops	Attend workshops
Goal 7: Create an educated community that is aware of the principles of responsible waste management		
Target 1: Conduct community awareness campaigns	<ul style="list-style-type: none"> • Conduct community awareness campaign via car stickers, key holders, sign boards and branding • Conduct road shows. 	<ul style="list-style-type: none"> • Conduct community awareness campaign via car stickers, key holders, sign boards and branding • Conduct road shows.

12. IMPLEMENTATION PLAN

The following recommendations have been derived from the situation analysis and the desired end state:

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
The Elliotdale, Dutywa and Willowvale waste disposal facilities should comply with legislative requirements. Site personnel should then be appointed, placed, educated to ensure the proper operation of these waste disposal facilities according to the license conditions.	Goal 1: Improve and develop infrastructure to comply with legislative requirements and municipal needs.	Target 1: Ensure that all the waste disposal facilities within the Municipality comply with legislative requirements.	Closure and rehabilitation of the Dutywa and Willowvale waste disposal sites and the feasibility should be investigated for the development a new waste disposal site within Dutywa or the extension of current waste disposal site in Dutywa. Provide training for waste disposal facility supervisors and operators, or alternatively investigate feasibility to outsource operations at the Elliotdale, Dutywa and Willowvale waste disposal facilities.	X	X				Alternative: Legislative Requirement to operate the landfill in compliance with license conditions - no alternative.	Existing Staff and Service Providers	None	Alternatively: Section 74 of MSA, Service Delivery Investigation: R 600 000

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
All waste disposal sites should be operated according to Minimum Requirements and/or license conditions.			Audit Management of waste disposal sites	X	X	X	X	X	Alternative: Outsourcing of waste management at the landfill site.	Existing Staff and Service Providers	None	R 70 000, including water quality monitoring during each audit occasion
Haphazard illegal disposal of waste in Willowvale.			Establish of transfer stations in Willowvale. This facility needs to be suitably located and properly designed. Appoint service providers to prepare technical designs, and put out tenders for the construction work		X	X			Alternative: Investigate the feasibility for waste disposal regionalisation within the municipality.	Existing Staff and Service Providers	None	Professional Fees to prepare designs and assistance with tender documentation: R350 000 Construction cost: R 1 800 000 for a transfer station

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
The Municipality should also extend the free basic refuse removal service to indigents in serviced settlements on an on-going basis.	Goal 2: Provide effective waste collection.	Target 1: Maintain current service delivery to all areas within the Municipality and extend service delivery to all indigent populations where possible.	Extend waste services to ensure that 95% of urban households and 75% of rural households have access to adequate levels of waste collection services by 2024.					X		Existing Staff	None	None. Indigents Services - Funding from Equitable Share

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
Extend services to include the proposed new developments in service delivery system.		Target 2: Effectively plan to extend service delivery to any new developments within the Municipality	Add new residential development areas as it develops.					X	Alternative: Privatised waste collection for new developments.	Existing Staff	None	None
A complete transportation study needs to be done to optimize waste collection.		Target 3: Conduct a transportation study to identify and optimise collection routes and number of service points	Optimise Collection Route		X				Alternative: Alternative vehicle and transport options.	Existing Staff and Service Providers	None	R 100 000 should a transportation study be done by service provider, alternatively it can be done internally. No budget required.
Optimise receptacle usage within the municipal area		Target 4: Establish receptacle requirements within the	Continue with current refuse collection system	X	X	X				Existing Staff	None	None

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
		Municipality and supply the receptacles to residents in order to optimise collection efforts	Phase in Standard Refuse Receptacles with new collection equipment i.e. wheelie bins with REL compactor trucks				X	X		Existing Staff	None	None, to be conducted by the municipality

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
The Municipality has a severe shortage of personnel for waste collection and for the proper management of the disposal facilities	Goal 3: Provide an Effective and a Cost-Efficient Waste Management Service	Target 1: Effective structure and extension of human resources	Fill current vacant positions	X						Existing Staff, Fill vacancies as per Municipality's organogram		None, to be negotiated by the Municipality.
			Employ Additional Staff to service new areas and to manage disposal and transfer facilities	X	X					Existing Staff, Fill vacancies as per Municipality's organogram		None, to be negotiated by the Municipality.
			Employ new staff as vacancies develop			X	X	X		Fill vacancies as it develops	None	None, to be negotiated by the Municipality
			Provide training for low level staff and for specialised positions	X	X	X	X	X		Existing Staff and Service Providers	None	R 100 000 per annum (Allow for 6% CPI increase per annum)
The Municipality has a few waste management		Target 2: Extend and maintain waste	Compile equipment replacement plan	X					Alternative: 1. Outsourcing	Existing Staff and Service	None	R 40 000

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
vehicles but is in a severe shortage of equipment for collection and landfill operation. The vehicle fleet will have to be extended once waste collection services are extended to new areas when they are developed.		collection fleet for service delivery							of Waste Collection.	Providers		
			Purchase required equipment and replace equipment as required when		X	X	X	X	2. Waste collection by community based collection models	Existing Staff and Service Providers, also refer to Goal 2 Human Resources required		None, as per Vehicle replacement plan.
			Maintain equipment	X	X	X	X	X		Existing Staff and Service Providers	None	None, to be included in the municipal budget
detailed financial investigation should be conducted by the Municipality. The extent and financial implications of the free basic refuse removal service to indigents should be determined to		Target 3: Effective financial management for waste management,	Performed Detailed Financial Investigation (Ring-fencing)		X					Existing Staff and Service Providers	None	R 400 000

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
ensure that the cost shortfall not covered by the Equitable Share is budgeted for accordingly by the Municipality.												
To provide a cost-effective waste management service, the payment of service tariffs should be improved and the tariff structure should be investigated to be viable and be standardised. The distinction between the tariffs for waste collection at domestic, businesses and Government Institutions is		Target 4: Implement improved tariff model	Evaluate Level of Service Delivery Develop Standardised Tariffs for Specific Levels of Service and update on a yearly basis	X	X	X	X	X		Existing Staff	None	None

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
supported and will ensure that the generators of waste pay for the waste they generate. This can also be an incentive for businesses to minimise their waste streams.												
The existing Municipal By-Laws is outdated and should be amended to address all aspects of the waste management hierarchy as required in terms of the National Environmental Management: Waste Management Act, 2008		Target 5: Decrease non – payment of tariffs.	Implement Pre-paid system		X					Existing Staff and Service Providers	None	R 120 000
		All Goals and Targets	Update By-laws to comply with NEMWA requirements	X						Existing Staff and Service Providers	None	R 100 000
			Review and update by-laws every 5 years					X		Existing Staff and Service Providers	None	R 100 000 (Allow for 6% CPI increase per annum for year 5)

Situation Analysis (Gaps and Needs)	Desire d End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipme nt	Finance

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
Ensure formalised recycling activities are taking place.	Goal 4: Decrease waste deposited on landfill	Target 1: Formalise and encourage recycling activities	Conduct Waste Minimisation Study	X						Existing Staff and Service Providers	None	R 120 000
		Target 2: Encourage waste minimisation.	Provide Recycling Containers Throughout Town - Locate containers at strategic places	X						Existing Staff and Service Providers	None	R 120 000
			Add Additional Containers to Service New Development Areas		X	X	X	X		Existing Staff and Service Providers	None	R 120 000 per year (Allow for 6% CPI increase per annum)
			Establish transfer station in Willowvale.		X					Sea Goal 1	See Goal 1	Refer to Goal 1, included as part of infrastructure development
			Promote Waste Minimisation under residents and businesses	X	X	X	X	X		See Goal 7	See Goal 7	See Goal 7
Educational and awareness programs should be encouraged by the Municipality												

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
to educate and inform community about recycling.			<p>Formal agreements between waste recycling industries and companies /businesses.</p> <p>Approach DEA for assistance on their agreements with the plastic, glass, waste tyre and Poly-Ethylene Terephthalate (PET) industries. Identify, monitor and evaluate recycling opportunities and initiatives within the Municipal area.</p>	X	X	X	X	X		Waste Management Specialist (to drive Recycling Initiatives)	See Goal 7	See Goal 7

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
			Regular forum meetings with stakeholders to co-ordinate waste minimisation and to encourage growth on the recycling section.	X	X	X	X	X		Existing Staff and Service Providers	None	None
			Implement incentive Schemes for In-House Recycling for business and homes.		X					Existing Staff and Service Providers	None	None

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance

The illegal disposal of waste is common all over the municipal area	Goal 5: Minimise/prevent illegal activities	Target 1: Develop an Illegal Dumping Management Strategy	Establish Community Watch Programme with incentive schemes	X						Existing Staff and Service Providers	None	R 40 000 for Strategy Development
			Provide Accessible Containers for Illegal Dumping Throughout Towns and Settlements		X	X	X	X		Existing Staff and Service Providers	Skip Truck	R 10 000 per skip – capex Existing skip loaders to be used when skips are filled, no cost assigned for additional vehicle
		Target 2: Improve removal of illegally dumped waste	Clean Illegally Dumping Hot Spot Areas	X	X	X	X	X		Existing Staff, operator, driver and/or Service Providers	TLB/Tractor back actor and a 6m ³ truck	TLB - R 850 000 capex 6 m ³ Truck - R 900 000 capex or R 600 000 per year should service providers be used for clean-up operations (Allow for 6% CPI increase per annum)

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
The Municipality must develop a Waste Information System for waste reporting purposes, so that waste information can be reported to the district municipality where the district municipality can then communicate the information to provincial authorities	Goal 6: Capacity building through information sharing	Target 1: Develop and maintain a waste information system	Develop WIS, and approach DEA for a standard WIS	X						Existing and new staff	None	None
			Maintain and update WIS as the situation changes in the Municipality. Ensure accurate waste disposal data are to be captured in the WIS (for both waste recycled and landfilled)				X	X	X		Existing and new staff	None

The Municipality has to compile a list or database of all health care facilities and industries in their area of jurisdiction, with a contact person and an indication of what is being done with their health care risk waste / industrial waste not collected by the Municipality i.e. who collects the waste and where is it being disposed off

Target 2:
Contribute to Inter Municipal Waste Information Workshops

X	X	X	X	X	

Existing and new staff

None

None

Situation Analysis (Gaps and Needs)	Desired End State	Targets	Action	2023	2024	2025	2026	2027	Alternative	Resources		
										Human Resources	Equipment	Finance
Responsible waste management within the community is lacking	Goal 7: An educated community that is aware of the principles of responsible waste management	Target 1: Build community awareness	<ul style="list-style-type: none"> Build Community Awareness through Newspaper Notices and Flyers. Conduct Road Shows 	X	X	X	X	X		Existing Staff and Service Providers	None	R 50 000 per year (Allow for 6% CPI increase per annum)

13. SUMMARY

13.1 Waste Disposal Infrastructure

The Municipality has jurisdiction over three waste disposal sites namely the Dutywa, Elliotdale and Willowvale waste disposal site.

The Dutywa waste disposal site is located approximately 2.5 km south east of the town and is licensed for closure. The site is fenced but has no access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Dutywa waste disposal site according to license condition.

The Elliotdale waste disposal site is authorised and located 3 south west of town. The waste disposal site is experiencing operational problems in varying degrees but can be mainly as a result of uneducated personnel as well as interference by uncontrolled reclaiming activities on daily operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.

The Willowvale waste disposal site is located approximately 1km north east of the town and is licensed for closure. The site is fenced and has access control to ensure only permissible waste is disposed of at the site. There was no equipment present on site to utilise with site operations. The site is not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns. Site personnel should be educated to ensure the proper operation of the Willowvale waste disposal site according to license conditions.

The Municipality should ensure that the abovementioned waste disposal facilities should be operated in accordance with their license conditions and/or as per the Minimum Requirements for Waste Disposal by Landfill (Second Edition 1998) as accepted practice. There is no waste management equipment present on the sites to utilise during site operations. The operations at these waste disposal sites should be upgraded to comply with Minimum Requirements.

Regionalisation seems to have become the trend of the future when it comes to waste management. Regionalisation can be defined as a licensed centralised waste management facility that receives waste for treatment, handling, and final disposal from multiple collection points over an entire municipal area. In order for a regionalisation option to be feasible the

transport from a transfer station to a waste disposal site should not exceed 50km from experience. Due to the distances between the towns Dutywa, Willowvale and Elliotdale, regionalisation is seen as an impractical and not feasible alternative option for all of the towns.

It is proposed that the Dutywa and Willowvale waste disposal sites are to be closed and rehabilitated within the next 2 years in accordance to the license conditions of each waste disposal site. The feasibility should be investigated for the development a new waste disposal site within Dutywa or the extension of current waste disposal site and the establishment of a small transfer station in Willowvale, from where waste can be transferred to the Dutywa waste disposal site. The “proposed” transfer station in Willowvale do not have to be licensed (throughput of less than 100m³ of waste per day), and therefore falls under a Category C listed Activity which only requires conformance to the National Norms and Standards for the Storage of Waste. These facilities however need to be properly located, designed, constructed and operated to comply with the National Norms and Standards for the Storage of Waste.

The Municipality can also assess the feasibility to outsource the operational activities on the site by conducting a Section 78 Municipal Service Delivery investigation. This study will inform the Municipality whether it might be more cost-effective to outsource the operations rather than dealing with it internally.

Possible benefits of outsourcing of the Dutywa, Willowvale and Elliotdale waste disposal facilities operations could include:

1. Reduced operating cost of the waste disposal site,
2. Reduced capital expenditure for the Municipality in terms of plant and equipment procurement,
3. Reduced operational expenditure in terms of salaries,
4. Improved operation of the Dutywa and Elliotdale waste disposal sites.

13.2 Waste Collection

The Municipality should include all new developments for the provision of a waste collection and disposal service.

It is essential that in conjunction with the Town Planning Section that future residential and business area expansion are catered for in terms of refuse removal. This will allow the

Municipality to, at an early stage, determine the possible costs involved and therefore will be able to adjust their budget accordingly. This will allow the Municipality to service the new areas when they are developed.

The Municipality should maintain the current service delivery to all areas within the municipal area and extend the service delivery to all indigent households on an on-going basis.

It is recommended that the Municipality continue with current refuse removal system, but phase in Standard Refuse Receptacles with new collection equipment i.e. wheelie bins with REL compactor trucks. The cost of the supply of the receptacles should be carried by the individual property owner to defray the financial burden on the Municipality and to ensure that the individual owners take care of their receptacles. Wheelie bins are more costly than plastic bags but have a longer lifespan.

The Municipality can be receptive to a “Food-for-Waste” initiative to improve waste collection and reduce the occurrence of illegal dumping in rural areas and in informal settlements. This initiative involves the people that lives in informal settlements/rural areas (issued with protective clothing) to collect waste from the residents and transport it to a centralized point once a week from where the municipality collects the waste and transport it to the nearest disposal facility. The waste collectors are not paid in cash but after weekly inspections receive basic household supplies and fresh products as a form of payment. This initiative can be driven by the Municipality who can apply for funds for the initiative through the Expanded Public Works Programme.

A complete transportation study needs to be done to optimise waste collection.

The outdated Municipal By-Laws should be amended to address all aspects of the waste management hierarchy as required in terms of the National Environmental Management: Waste Management Act, 2008.

13.3 Resource Extension

The Municipality has a severe shortage of personnel for waste collection and for the proper management of the disposal facilities. The Municipality should fill current vacant positions and create posts to extend human resources capacity to fulfil service requirements as and when needed.

The Municipality has a few waste management vehicles but is in a severe shortage of equipment for collection and landfill operation. The vehicle fleet will have to be extended once waste collection services are extended to new areas when they developed.

The payment of services in the Municipal Area is low due to various reasons. The current billing system does not seem to be effective. A pre-paid system should be investigated to be implemented where non-payment of fees is present. The municipality must also take cognizance of the policy on Free Basic Refuse removal and develop an action plan for implementation.

It is further recommended that a detailed financial investigation be done to investigate run of vehicles, salaries, basic service allocation, credit control, pricing and tariffs, and other issues i.e. budget management etc. This will assist in ring-fencing the waste management services, should this be decided by the Municipality.

To provide a cost-effective waste management service, the payment of service tariffs should be improved and the tariff structure should be investigated to be viable and be standardised. A distinction between the tariffs for waste collection at domestic, businesses and Government Institutions is recommended and will ensure that the generators of waste pay for the waste they generate. This can also be an incentive for businesses to minimise their waste streams.

The extent and financial implications of the free basic refuse removal service to indigents should be determined to ensure that the cost shortfall not covered by the Equitable Share is budgeted for accordingly by the Municipality.

13.4 Waste Minimisation

Currently the Municipality has an inform waste program in place, but no formalised waste minimisation strategies and recycling initiatives are being implemented by the Municipality. This can also be attributed to the lack of available markets for the recycled materials. However, the National Environmental Management Waste Act, (Act 59 of 2008) has shifted the emphasis from end of pipe solutions i.e. landfilling up the waste management hierarchy to promote waste minimisation.

For this reason, it is recommended that the Municipality develop a Waste Minimisation Strategy.

Council should identify and implement waste minimisation and recycling initiatives to reduce the tonnage of waste reaching the waste disposal site and which will subsequently create jobs for those who are interested to participate in recycling programs.

Recycling of waste will lengthen the lifespan of the waste disposal site. Through proper recycling it might be possible to remove as much as 30% - 50% of all material earmarked for landfill disposal. The Municipality has to encourage recycling by providing measures to increase the convenience of recycling for the average person. Recycling activities tend to fail due to the effort required from the community. The Municipality therefore can place recycling containers at central and visible locations to maximise exposure and convenience. Community awareness about recycling and recycling initiatives must also then be increased through advertisements and the distribution of flyers and letters.

There is also a national initiative that will put a levy on the purchase of new and re-tread tyres. This levy will go into a national fund that will be responsible for the disposal and possible recycling of used tyres. The implementation of an incentive scheme for in-house waste minimisation for businesses should also be investigated.

13.5 Management of Illegal Activities

The illegal disposal of waste is common all over the municipal area. The illegal disposal should be addressed in order to manage and minimise the illegal activities pertaining to waste disposal. No strategies to prevent illegal disposal is currently in place. The Municipality should budget for the purchasing of mass containers to place in strategic places and open spaces where illegal dumping is regularly occurring and clean these skips at one of the municipal waste disposal sites when filled. To further improve the current situation, the Municipality can introduce a neighbourhood watch system that will aim to prevent illegal dumping within their specific area.

13.6 Waste Information System

The Municipality must also develop a Waste Information System for waste reporting purposes. This system would allow for record-keeping of comprehensive records of waste disposal and collection on which informed decision-making can be based and to comply with the reporting requirements of the relevant Provincial authority. The Municipality should ensure to provide accurate waste disposal data to be captured in the WIS.

The Municipality has to compile a list or database of all industries and medical waste facilities (including old age homes) in their area of jurisdiction, with a contact person and an indication of what is being done with their medical / industrial waste not collected by the Municipality i.e. who collects the waste and where is it being disposed of.

The costs involved in the development of a WIS will vary depending on the structure and contentiousness of the area. DEA has developed a generic WIS that may be provided to the Municipality for implementation.

13.7 Education and Awareness

The Municipality presently does not have any formal community awareness campaigns that are directed at informing the general community with regards to waste management.

A top down approach by the Municipality relies heavily on non-payment penalties to ensure that residents comply with legislation. Recycling and waste minimisation initiatives, however, are not included in the normal service delivery and can only be effectively achieved with the co-operation of the residents.

It is therefore vitally important that the community is made aware of initiatives, waste recycling activities and the advantages of waste minimisation and recycling by the Municipality. This can either be achieved by advertisements and notices in the local newspapers or by providing information regarding these initiatives on the municipal bills distributed each month. The Municipality can also conduct road shows to demonstrate to and inform people of waste related issues.

An Awareness Campaign is crucial to make people aware of the Integrated Waste Management Plan of the Municipality. This awareness campaign needs to have the full support of the Municipality and other Government Departments. This campaign will need to look at an integrated approach to community awareness.

APPENDIX A – WASTE MANAGEMENT LICENSES



Province of the
EASTERN CAPE
 DEPARTMENT OF ECONOMIC DEVELOPMENT,
 ENVIRONMENTAL AFFAIRS & TOURISM

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 South Africa, 5605
 Phone: +27 (43) 605 7126
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Tombeta.Mapukata@deet.ecape.gov.za

Ref: HQ/A/20/L017/12
 Eng. T. Mapukata

MBASHE LOCAL MUNICIPALITY

P. O. Box 25
 DUTYWA
 4930

Attention: Ms A. Mpambani

AMENDMENT NOTICE # 1: AMENDMENT OF WASTE LICENCE ISSUED IN TERMS OF SECTION 49(1)(a) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT : WASTE ACT, 2008 (ACT NO. 59 OF 2008) TO UNDERTAKE A LISTED ACTIVITY TO CLOSE AND REHABILITATE THE DUTYWA DISPOSAL SITE

The Waste License for the Closure and Rehabilitation of the Dutywa Disposal Site dated 18/ 07/ 2013 and the amendment request from Aurecon (Reference: PRESLEDEL04) dated 25 September 2015 and received by the Department on 06 October 2015 refers.

In this regard please be advised that Condition 13.1 of the Waste License is hereby amended to read as follows:

1) Condition 13.1

The closure activity must commence within a period of two (2) years from the date of issue of this Amended Waste License Notice. If commencement of the activity does not occur within that period, the License lapses and will not be renewed again. A new application process must be followed and proof that means to commence with closure activity were sought during this timeframe attached.

- 2) The Department has considered the motivation report and the new Waste License application form prepared by Aurecon on behalf of Mbashe Local Municipality dated 25 September 2015.
- 3) Section 3 of the Motivation Report together with all other provisions of the Waste License HQ/A/20/L017/12 must be strictly adhered to and remain in force.



Province of the
EASTERN CAPE
 DEPARTMENT OF ECONOMIC DEVELOPMENT,
 ENVIRONMENTAL AFFAIRS & TOURISM

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Tembela.Mapukata@deeat.ecape.gov.za

Ref: HO/A/20/LO15/12
 Enq: T. Mapukata

MBASHE LOCAL MUNICIPALITY

P. O. Box 25
 DUTYWA
 4930

Attention: Ms A. Mpambani

AMENDMENT NOTICE # 1: AMENDMENT OF WASTE LICENCE ISSUED IN TERMS OF SECTION 49(1)(a) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT : WASTE ACT, 2008 (ACT NO. 59 OF 2008) TO UNDERTAKE A LISTED ACTIVITY TO CLOSE AND REHABILITATE THE WILLOWVALE DISPOSAL SITE

The Waste License for the Closure and Rehabilitation of the Willowvale Disposal Site dated 18/ 07/ 2013 and the amendment request from Aurecon (Reference: PRESLDEL04) dated 25 September 2015 and received by the Department on 06 October 2015 refers.

In this regard please be advised that Condition 13.1 of the Waste License is hereby amended to read as follows:

1) Condition 13.1

The closure activity must commence within a period of two (2) years from the date of issue of this Amended Waste License Notice. If commencement of the activity does not occur within that period, the License lapses and will not be renewed again. A new application process must be followed and proof that means to commence with closure activity were sought during this timeframe attached.

- 2) The Department has considered the motivation report and the new Waste License application form prepared by Aurecon on behalf of Mbashe Local Municipality dated 25 September 2015.
- 3) Section 3 of the Motivation Report together with all other provisions of the Waste License HO/A/20/LO15/12 must be strictly adhered to and remain in force.



environment & tourism

Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

Ref: 12/9/11

Enquiries: Ms K. Ntoampe

Tel. 012 310 3920 Fax: 012 310 3753 Email Address: knntoampe@deat.gov.za
www.deat.gov.za

The Municipal Manager
Mphahle Local Municipality
P. O. Box 25
DUTYWA
5000

Fax: (043) 743 0417

Dear Permit Holder

PERMIT IN TERMS OF SECTION 20 OF THE ENVIRONMENT CONSERVATION ACT, 1989 (ACT NO. 73 OF 1989)

Please find herewith attached a permit/permit amendment issued in terms of S.20 of the ECA (ACT NO. 73 OF 1989) (as amended).

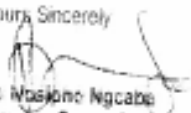
Please be advised that future permit amendment applications should be addressed to:

The Director: Authorisations and Waste Disposal Management
Department of Environmental Affairs and Tourism
Private Bag 1204
Pretoria
0001

It is also to advise you that applications for authorization of permit amendment, exemptions, waste de-listing, emergency and ad hoc off authorizations will be processed only if the Department of Environmental Affairs and Tourism (DEAT) is in receipt of the latest external audit report, Annexure IV of the permit or any other documents specified in the permit/ authorisation that needs to be submitted to DEAT/DWAF annually or at frequencies stipulated in the permit.

Furthermore, please note that due to the permitting process being handled by two departments, the **minimum** time for processing any application regardless of details required is four and half months. You are therefore advised to apply well in advance.

Yours Sincerely


Ms. Mosimone Ngcabe
Director-General

Letter signed by Ms Kelollo Ntoampe
Designation: Director: Authorisations and Waste Disposal Management
Date: 13 JANUARY 2008



APPENDIX B – PUBLIC PARTICIPATION

Communication is a two-way process. Information needs to go from the Mbhashe Local Municipality to the public, but simultaneously the public must receive the opportunity to comment on all proposed Mbhashe Local Municipality decisions. Examples of participatory initiatives that create awareness include:

- Ward meetings: regular public meetings between municipal officials and municipal residents
- Community projects: While there is merit in the traditional cleaning up campaigns,
- Community projects to create a sense of pride in their environment as well as the will to take responsibility for their immediate surroundings and the environment.
- This will only be achieved if the Mbhashe Local Municipality shows a serious drive towards e.g. combating illegal dumping and ensuring a clean environment for all municipal residents. Through community projects, unsightly areas prone to illegal dumping can be turned into gardens, play parks or recreation areas.
- Targeted door-to-door education campaigns could add value as a two-way communication method to create buy-in in areas where waste management can be improved.
- Reporting of incidents: Providing a mechanism to report bad waste management practices, including e.g. poor service delivery and illegal dumping, will give the public a sense of responsibility, and pride, in their immediate environment.

INFORMATION TRANSFER

Examples of information transfer include the dissemination of relevant information via the following communication channels:

- Billboards
- Local newspapers, e.g. regular informative articles
- Local radio stations, e.g. talk shows and advertisements
- Newsletters, including electronic newsletters.
- Flyers
- Educational material in collaboration with the Department of Education

- Presentations and hands-on shows at schools, e.g. a positive preventative message will make learners aware of how the environment should be protected and conserved.
- Discussions with businesses and industry to create win-win situations related to waste management

In compliance with the Municipal Systems Act and the NWMS, the integrated waste management plan was developed in consultation with stakeholders. A database of stakeholders will be compiled and maintained throughout the project. A list of key stakeholders will be in consultation with stakeholder and local communities. The participant will include:

- Ward Councillors.
- Members of the traditional council.
- Department of Economic Development, Environmental Affairs and Tourism
- Department of Water & Sanitation
- COGTA
- Businesses
- Community members.
- Non-governmental organisations.
- Department of Forestry, Fisheries and the Environment.

Stakeholder meetings had been conducted for the duration of the development of the final IWMP.

The consultative stakeholder workshops were prepared with invitations to participants, workshop agendas and documents forwarded to key stakeholders at least a week prior to the workshop. A record of workshop proceedings is kept, with comments made during the sessions well documented for record purposes. The workshop facilitation process was conducted in an interactive and participative manner, allowing stakeholders the opportunity to discuss and debate relevant issues.

