

DR NKOSAZANA DLAMINI ZUMA LOCAL MUNICIPALITY



DRAFT 2ND GENERATION INTEGRATED WASTE MANAGEMENT PLAN 2026 – 2031

Prepared by:

Sinohydro Consultant (Pty) Ltd



49 Peter Kerchhoff Street

Pietermaritzburg 3201

Cell: 073 629 2617

Tel: 033 940 9635

Email: info@amathongagroup.co.za

Revision No.	Issue Date	Prepared By	Signature	Approved By	Signature
0	24 February 2026	M. Dube			
1	09 May 2026	M. Dube			

Although Sinohydro (Pty) Ltd exercises due care and diligence in rendering services and preparing documents, Sinohydro (Pty) Ltd accepts no liability, and the client, by receiving this document, indemnifies Sinohydro (Pty) Ltd and its directors, managers, agents and employees against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by Sinohydro (Pty) Ltd and by the use of the information

TABLE OF CONTENTS

EXECUTIVE SUMMARY	6
1. INTRODUCTION & BACKGROUND	9
1.1 Contents of an IWMP	10
1.2 Background of the NDZM Integrated Waste Management Plan	11
1.3 Objectives of an Integrated Waste Management Plan	11
1.4 Integrated Waste Management Plan Development Process	12
1.4.1 Current Integrated Waste Management Plan	13
1.4.2 Literature Review	13
1.4.3 Site Visits and Ground-Truthing	13
1.4.4 Engagements with the NDZM	13
1.4.5 Project Steering Committee	13
1.4.6 Presentations and Workshops	14
1.4.7 Public Participation Process (PPP)	14
1.4.8 Assumptions and Limitations	14
2 SCOPE OF THE NDZM INTEGRATED WASTE MANAGEMENT PLAN	15
2.1 Review of the Integrated Waste Management Plan	15
2.2 Review Method and Approach	16
3 APPLICABLE POLICIES AND LEGISLATION	18
3.1 National	18
3.1.1 National Waste Management Strategy, 2020	18
3.1.2 National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	19
3.1.3 National Domestic Waste Collection Standards, 2011	22
3.2 Provincial	22
3.2.1 KwaZulu Natal Integrated Waste Management Plan 2023 - 2028	22
3.3 District	24
3.3.1 Draft Harry Gwala District Integrated Waste Management Plan, 2020	24
3.4 Local	24
3.4.1 NDZM Integrated Waste Management By- laws, 2024	24
4 SITUATION ANALYSIS	25
4.1 Demographic Profile	25
4.2 Socio-economic Profile	27
4.3 Waste quantities and types	30
4.3.1 Weighbridges	30
4.3.2 Volume Density Estimation System	31
4.3.3 Waste Stream Analysis	31

4.4	Waste recycling, treatment and disposal.....	34
4.4.1	Status Quo of Waste Disposal Facilities.....	34
4.4.2	Status Quo of Waste Recyclers.....	36
4.4.3	Status Quo of other types of Facilities.....	38
4.5	Status of Waste Collection Services.....	39
4.5.1	Collection needs	39
4.5.2	Mainstreaming key principles of the NWMS.....	39
4.5.3	Waste Pickers Integration	40
4.5.4	Circular waste economy	40
4.6	Financing for Waste Management Services.....	41
4.6.1	Budget for waste services	41
4.6.2	Organisational and institutional matters	43
5	GAPS AND NEEDS ASSESSMENT	46
6	DESIRED END STATE.....	46
6.1	Strategic Goals, Targets, And Indicators	46
7	IMPLEMENTATION PLAN	51
8	IWMP CONSULTATION PROCESS	56
8.1	Public consultation of the IWMP Review	56
9	MONITORING & REVIEW	56
10	ANNUAL PERFORMANCE REPORTS	59
11	CONCLUSION	60
11.1	Recommendations	61
12	REFERENCES	66

LIST OF FIGURES

Figure 1-1: Geographical Map of NDZM	9
Figure 1-2: Integrated Waste Management Planning Process (DFFE, 2009).....	12
Figure 4-1: Population pyramid for NDZM (Stats SA, 2022)	26
Figure 4-2: Percentage Race in NDZM (Stats SA, 2022).....	27
Figure 4-3:Waste profile of the NDZM (KZN DEDET, 2025)	29
Figure 4-4: Five leading problems/challenges faced by the municipality in KwaZulu-Natal province (Stats SA, 2018)	30
Figure 4-5: Waste Characterisation by the DFFE conducted at the Himeville Waste Transfer Station in January 2026.....	32
Figure 4-6: Waste stream analysis results (DFFE, 2026)	32
Figure 4-7: Locality Map of the waste disposal and transfer sites within the NDZM	34

Figure 4-8: Entrance to the closed Bulwer waste disposal site	35
Figure 4-9: Photos showing the general condition of the Creighton waste disposal site	36
Figure 4-10: Photos of the Himeville Waste Transfer station taken during the site inspection on 12 February 2025	38
Figure 4-11: Stack chart of the draft IWMP budget	43
Figure 4-12: Bar Chart of the draft IWMP 5-Year Budget.....	43
Figure 4-13: NDZM Organogram	45

LIST OF TABLES

Table 1-1: Content of IWMP as provided in Section 12 of the NEM:WA	10
Table 1-2: Engagements on the drafting of the IWMP	13
Table 1-3: Details of the Project Steering Committee	13
Table 3-1: NDZM waste management activities listed in GN 921 of 2013	21
Table 4-1: Demographic profile of NDZM (Stats SA, 2022).....	25
Table 4-2: Population density by district & local municipality, census 2011-2022 (Stats SA, 2024)	26
Table 4-3: Attendance at an educational institution (5-24 years), Census 2022	26
Table 4-4: Distribution of households by type of main dwelling in the NDZM (Stats SA, 2022)	27
Table 4-5: Distribution of households by refuse removal (Stats SA, 2022).....	27
Table 4-6: Distribution of households by type of refuse removal, district & municipality, Census 2022 (Stats SA, 2024)	28
Table 4-7: General Waste Type stream.....	33
Table 4-8: Bulwer waste disposal site closure legal status	35
Table 4-9: Creighton waste disposal site legal status	35
Table 4-10: Number of households with access to refuse removals in terms of the NDWCS (NDZM, 2025)	39
Table 4-11: Key principles underpinning the draft WMS 2026 (DFFE, 2025)	41
Table 4-12: NDZM IWMP 5 Year Draft Budget Summary.....	41
Table 4-13: NDZM IWMP 5-Year Draft Budget – Annual Summary.....	42
Table 5-1: Strategic Goals, Objectives, Targets, and Implementation Plan	47
Table 9-1: 2022/2023 Annual Performance Reports solid waste management indicators (NDZM, 2023)...	59
Table 9-2: Weaknesses and threats to waste management in NDZM (NDZM, 2023)	59

ABBREVIATIONS

CBD	Central Business District
CE	Circular Economy
CS	Community Survey
DEA	Department of Environmental Affairs (now DFFE)
DFFE	Department of Forestry, Fisheries, and the Environment
EDTEA	KwaZulu-Natal (KZN) Department of Economic Development, Tourism and Environmental Affairs
EPWP	Expanded Public Works Programme
GN	Government Notice
HCRW	Health Care Risk Waste
HGDM	Harry Gwala District Municipality
IDP	Integrated Development Plan
INR	Institute of Natural Resources
IWM	Integrated Waste Management
IWMP	Integrated Waste Management Plan
MFMA	Municipal Finance Management Act (MFMA), Act 56 of 2003
KZN	KwaZulu-Natal
NDZM	Dr Nkosazana Dlamini-Zuma Local Municipality
NDWCS	National Domestic Waste Collection Standards
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NWMS	National Waste Management Strategy
PET	Polyethylene Terephthalate
SAWIC	South Africa Waste Information Centre
SAWIS	South Africa Waste Information System
SA	South Africa
TC	Traditional Councils
WIS	Waste Information System

EXECUTIVE SUMMARY

The Dr. Nkosazana Zuma Local Municipality developed its first-generation Integrated Waste Management Plan (IWMP) 2021-2026 in fulfilment of Sections 11 and 12 National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended. Implementation of the IWMP was to be facilitated through municipal by-laws and in accordance with an implementation schedule. The integrated waste management by-laws were only enacted in 2024, and the implementation schedule has not been assessed annually in the 2021/2022, 2022/23, 2024/25 Annual Performance Assessment Reports, as required in terms of Section 13 of the NEM:WA. The review was therefore conducted based on the information provided by the NDZM which was verified through site visits and review of site-specific audit reports. The IDPs also provided valuable information used in the review. A number of waste management issues fundamentally linked to poor organisational structure and governance were identified in the review findings. Key to this was the non-availability of a Waste Management Officer to ensure the effective implementation of the IWMP and integrated waste management by-laws.

The weaknesses of the 1st Gen IWMP, and threats thereto, were identified in the Draft NDZM IDP 2025/2026 as follows:

- Insufficient human resource e.g. waste management officer and waste disposal sites personnel;
- No enforcement of waste by-law;
- No landfill;
- Outsourcing of waste collection service;
- Illegal dumping;
- Budget constraints; and
- Inefficient waste collection.

The Draft NDZM IDP 2025/2026 proposed the following action plan:

- Proper budgeting for Waste and Environmental Management;
- To review and implement an integrated waste management plan;
- Continuous awareness campaigns on waste management to all wards;
- Appoint service provider to conduct quarterly inspections, maintenance, verification and calibration of all weighbridges; and
- Organic Waste Composting site.

This 2nd Gen IWMP responds to all the above issues and provides a comprehensive implementation plan for the next five years. The main priorities in the medium- term include:

- Authorisation and construction of the new proposed Bulwer landfill;
- Capping and closure of the old Bulwer waste disposal site;
- Ensure the Creighton Waste disposal site operates efficiently in compliance with the waste management licence conditions;
- Ensure the Himeville Waste Transfer station is upgraded and operates efficiently according to the Norms and Standards;
- Ensure efficient waste collection services;
- Provide sufficient waste receptacles particularly in unserved areas to prevent illegal dumping;
- Conduct awareness campaigns for the Integrated Waste Management by-laws; and
- Provide training in the enforcement of by-laws.

The main strategy for the long-term is to promote waste prevention, separation, and recycling or reuse. The Waste Management Strategy requires the prevention of waste, and where waste cannot be prevented ensure – 40% of waste diverted from landfill within 5 years; 55% within 10 years; and at least 70% within 15 years leading to Zero-Waste going to landfill. A significant proportion of the general waste generated within

the NDZM is recyclable and therefore the Himeville Waste Transfer station plays a critical role in the diversion of recyclable waste from going to landfill.

The strategic goals and objectives are in alignment with the KZN provincial IWMP and the draft Waste Management Strategy 2026 (WMS). The WMS is predicated on the insight that while waste is an environmental concern, it is also an important sector in which technology and innovation have a crucial role to play in creating a secondary resources economy. It recognises the strategic entry points to waste minimisation and the circular economy is waste prevention and waste as a resource. Waste prevention emphasises avoiding and reducing waste before substances, materials and products are discarded i.e. before they become waste through a focus on the design and packaging of products and cleaner production. The main economic driver here is to avoid the costs to businesses and the public sector associated with waste collection and disposal. An additional opportunity lies in promoting the distribution and use of in-bulk products, which reduce the need for single-use packaging and offer scalable waste prevention benefits in both urban and rural areas, particularly for household and personal care products. Waste as a resource –focuses on stimulating a secondary resources economy based on recycling and recovery of materials and energy from waste i.e. interventions that take place after a product or material has become waste. The main economic driver lies in exploiting the full potential value of waste. This IWMP promotes strategic partnerships between the NDZM and local businesses aimed at waste prevention. One particular waste stream identified is to reduce the use of single-use packaging such as plastic bags in shops. In terms of waste as a resource, the NDZM is already diverting recyclable waste from landfills through the separation of recyclable waste at the Himeville Waste Transfer station. Opportunities exist to strengthen the value chain of recyclables within the Municipality and the composting of organic garden waste is one such example.

The 1st generation KZN IWMP is based on five strategic goals aimed at addressing the identified challenges in waste management within the province, which ultimately define the Desired End State. These goals, according to the provincial IWMP, should be seen as the wide, over-arching Desired End State (intentions/ambitions) while the Objectives are the measurable steps that need to be taken to achieve these goals. The strategic goals are:

- *Goal 1: Increase waste diversion in all Municipalities / Districts*
- *Goal 2: Improve implementation of Integrated Waste Management Planning in all Municipalities / Districts*
- *Goal 3: Deliver sustainable waste services in all Municipalities / Districts*
- *Goal 4: Mainstream waste education, awareness, compliance and enforcement across all sectors and spheres of society*
- *Goal 5: Initiate climate-resilient waste infrastructure and systems for all Municipalities / Districts*

The strategic goals of this IWMP are aligned to the above provincial strategic goals (see Sub-section 6.1) .

To ensure this IWMP is implemented effectively, it is recommended the NDZM must formulate an institutional and organisational plan that is intended to guide institutional transformation and re-organisation of support structures for carrying out the IWMP and delivering on the waste management strategic objectives. This plan, according to the DFFE, should include the following:

- Make provision for human resource development, and the additional staff required.
- The communication and public participation plan should detail the communication and public participation process to ensure that the necessary arrangements are in place for stakeholders to be informed about progress and to feedback into the process for the implementation of the IWMP.
- The financial plan should reflect the waste management priorities identified in the development of the IWMP. The annual budget should be based on the medium-term financial and institutional plans in order to direct and manage resources in a focused way, to achieve the goals of the planning process. A plan for raising the revenue to support the implementation should be developed.

- The waste management implementation plan should detail the activities to be undertaken, delivery targets and delivery milestones. It will also provide information on project management, responsibilities of officials responsible for the implementation of the IWMP and schedules for project implementation.

DRAFT

1. INTRODUCTION & BACKGROUND

The Dr Nkosazana Dlamini-Zuma Local Municipality (hereafter abbreviated as “NDZM”) is a Category B¹ municipality situated in the southern part of KwaZulu-Natal within the Harry Gwala District Municipality (HGDM), which borders on the Eastern Cape and Lesotho. It is located approximately 176 km north-east of Kokstad and 80 km south-west of Pietermaritzburg. The NDZM was established by the amalgamation of the Ingwe and Kwa Sani Local Municipalities in August 2016.

The NDZM is a predominantly rural municipality with 5 main towns within its boundaries. These include Underberg, Himeville, Creighton, Bulwer, and Donnybrook. It is the largest municipality in geographical area (3 602 km²) out of the four local municipalities in the district, accounting for just over a third of its geographical area. Tribal lands occupy a major proportion of this geographical area. The municipality is bordered by Impendle Municipality to the north, Richmond Municipality to the north-east, Ubuhlebezwe Municipality to the southeast, Greater Kokstad Municipality to the south and Kingdom of Lesotho to the west.

The NDZM fulfils the role of being the administrative and commercial centre for the HGDM. There are 15 wards with 29 Councillors, 15 Ward Councillors and 14 PR Councillors. The rural areas of Thunzi, Ngqiya, Ridge and Stepmore have been reincorporated from Impendle in to NDZM. The extent of the municipality’s geographic coverage is approximately 3600 square kilometres. There are 11 Traditional Councils (TC), and the settlements and communities under the leadership of Traditional Councils account for a higher proportion compared to non-aligned communities.

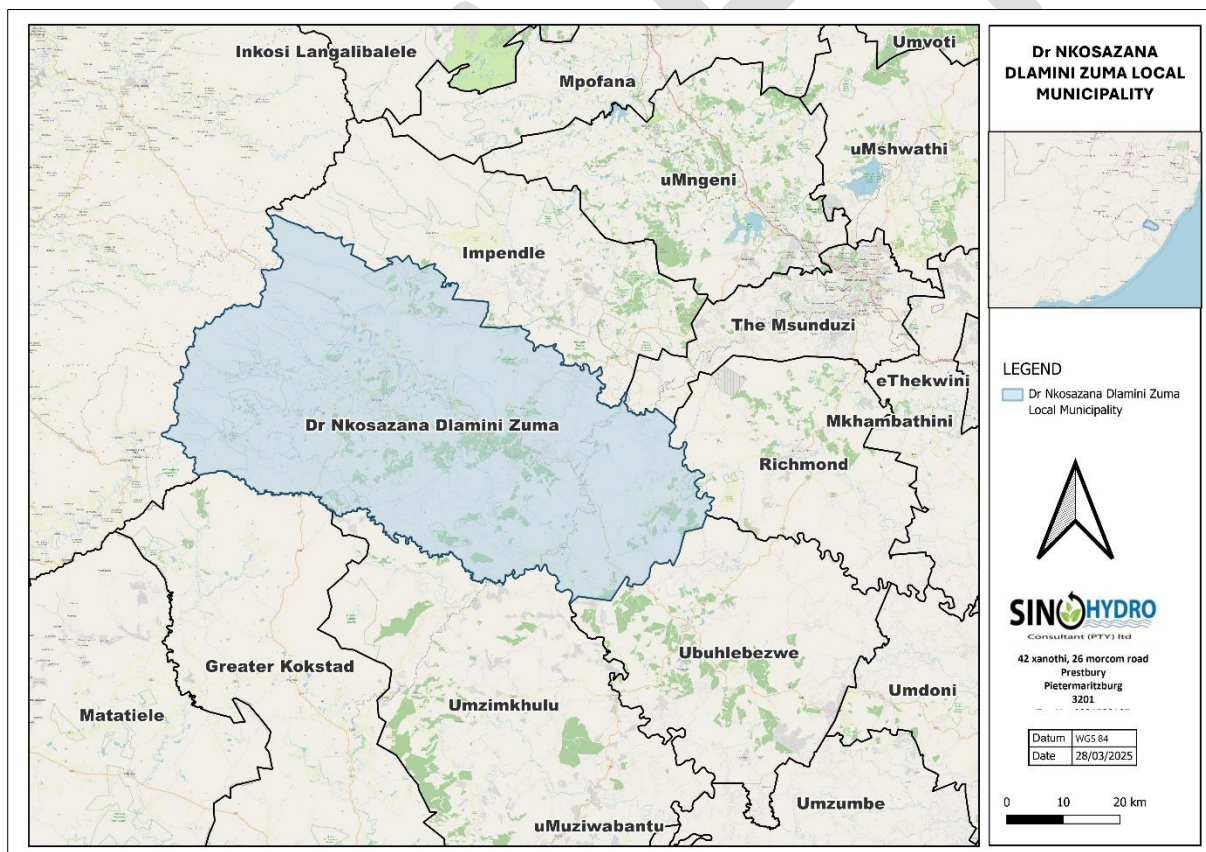


Figure 1-1: Geographical Map of NDZM

Waste management in the municipality has evolved over the years from informal waste disposal sites to licenced landfills. Waste disposal is still predominantly by burying or burning particularly in rural

¹ means a category B municipality envisaged in section 155(1)(b) of the South African Constitution

settlements. The Himeville Waste transfer facility has created, through the Bazamile Cooperative, economic opportunities in the waste recycling sector.

1.1 Contents of an IWMP

The development of an IWMP is a requirement in terms of Section 11 of the National Environmental Management: Waste Act No.59 of 2008, published in Government Gazette 32000 of 10 March 2009 (as amended) (NEM:WA).

The contents of an IWMP are laid out under Section 12 of NEM:WA as indicated in **Table 1-1**:

Table 1-1: Content of IWMP as provided in Section 12 of the NEM:WA

Content	Section in the IWMP
a) contain a situation analysis that includes- (i). a description of the population and development profiles of the area to which the plan relates; (ii). an assessment of the quantities and types of waste that are generated in the area; (iii). a description of the services that are provided, or that are available, for the collection, minimisation, reuse, recycling and recovery, treatment and disposal of waste; and (iv). the number of persons in the area who are not receiving waste collection services	Section 2
b) within the domain of the provincial department or municipality, set out how that provincial department or municipality intends- (i). to give effect, in respect of waste management, to Chapter 3 of the National Environmental Management Act; (ii). to give effect to the objects of this Act; (iii). to identify and address the negative impact of poor waste management practices on health and the environment; (iv). to provide for the implementation of waste minimisation, re-use, recycling and recovery targets and initiatives; (v). in the case of a municipal integrated waste management plan, to address the delivery of waste management services to residential premises; (vi). to implement the Republic's obligations in respect of any relevant international agreements; (vii). to give effect to best environmental practice in respect of waste management;	Section 5.1
c) within the domain of the provincial department, set out how the provincial department intends to identify the measures that are required and that are to be implemented to support municipalities to give effect to the objects of this Act;	Section 5.2
d) set out the priorities and objectives of the provincial department or municipality in respect of waste management;	Sections 1.3 and 6.7

e) establish targets for the collection, minimisation, re-use and recycling of waste;	Sections 6.7 and 6.8
f) set out the approach of the provincial department or municipality to the planning of any new facilities for disposal and decommissioning of existing waste disposal facilities	Sections 6.7 and 6.8
g) indicate the financial resources that are required to give effect to the plan;	Section 8
h) describe how the provincial department or municipality intends to give effect to its integrated waste management plan; and	Section 8
i) comply with the requirements prescribed by the Minister	Section 10

Subsection 4 (a) of the NEM:WA requires each municipality to (i) submit its integrated waste management plan to the MEC for endorsement; and (include the endorsed integrated waste management plan in its integrated development plan contemplated in Chapter 5 of the Municipal Systems Act.

1.2 Background of the NDZM Integrated Waste Management Plan

The first generation IWMP for the NDZM was developed in 2021, with the purpose to:

- Promote recycling and recovery of waste by contributing towards the growth of the green economy and promoting waste minimisation.
- Ensure the effective and efficient delivery of waste services to all communities.
- Provide the public with safe and accessible waste disposal facilities.
- Educate and raise awareness in waste management.
- Maintain and provide compliant waste disposal sites according to waste management licence/norms and standards.

The implementation of the IWMP started in 2023, and according to the final 2023/24 Integrated Development Plan (IDP), the implementation schedule for year 2023-2024 involved the following actions:

- Provide receptacles for household waste and CBD-Purchase of drums;
- Purchase of skip bins for illegal dumping sites;
- Review tariffs in accordance to the costs of rendering waste services; this is to increase waste revenue-Municipal tariffs review is underway. Revenue unit has is being engaged;
- Review of Municipal waste by-law. A Consultant has been appointed draft by-law has been drafted, consultation stages to be followed for approval of the by-law;
- Annual programme of environmental awareness campaigns-the Municipality continues to conduct quarterly awareness campaigns to schools and communities.

However, the IWMP was never approved by the council for implementation. The drafting and enactment of the Waste Management By-laws was identified as a major instrument to drive the implementation of the IWMP. The Waste Management By-laws were gazetted by the NDZM in 2023.

1.3 Objectives of an Integrated Waste Management Plan

The primary objective of the IWMP is to integrate and optimise waste management planning in order to maximise efficiency and minimise the associated environmental impacts and financial costs, and ultimately improve the quality of life for all in the NDZM. The NEM:WA requires that Municipalities must integrate their IWMPs in to then IDPs in order to ensure that waste management services are streamlines with other essential basic services such as water and sanitation, housing, and electricity provision. This is

to ensure that waste management receives an equitable share of the funding allocation, and municipalities are required to ensure that waste services are properly budgeted to ensure sustainability in the delivery of waste management services.

The objectives of this IWMP are underpinned by the following outcomes of the National Waste Management Strategy (NWMS), 2020

- Prevent waste, and where waste cannot be prevented ensure – 40% of waste from diverted from landfill within 5 years; 55% within 10 years; and at least 70% within 15 years leading to Zero-Waste going to landfill;
- All South Africans live in clean communities with waste services that are well managed and financially sustainable; and
- Mainstreaming of waste awareness and a culture of compliance resulting in zero tolerance of pollution, litter and illegal dumping.

This IWMP aims to address all areas of waste management in the NDZM, from waste prevention and minimisation (waste avoidance), to separation, collection, storage, transport, treatment, recovery, recycling and final disposal.

The main goals of the NDZM IWMP are aligned with the goals of the NWMS, KwaZulu-Natal Provincial IWMP², the Municipal Spatial Development Framework (SDF), and the Municipal Integrated Development Plan (IDP).

1.4 Integrated Waste Management Plan Development Process

The approach and methodology used in developing the NDZM IWMP is based on the planning process illustrated in the Department of Environmental Affairs (DEA) *Guideline for the development of IWMP's* (DFFE, 2009). The planning process, as illustrated in **Figure 1-2**, includes:

- Establishing the situation analysis which includes backlogs;
- Setting the desired end state;
- Identifying, evaluating and selecting alternative methods/approaches for achieving the desired end state;
- Implementing the IWMP; and
- Evaluating and reviewing the plan to ensure the respective objectives are being met.

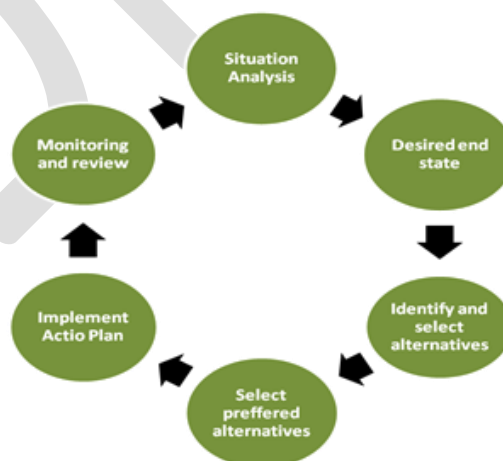


Figure 1-2: Integrated Waste Management Planning Process (DFFE, 2009)

² The first generation provincial IWMP has not yet been gazetted since the inception report compiled by the Institute of Natural Resources NPC (INR) in April 2022.

A phased approach, in line with the above planning process, was used in the development of this IWMP.

1.4.1 Current Integrated Waste Management Plan

A review of the five-year NDZM IWMP 2021-2026 was conducted to assess its implementation and performance as required in terms of Section 13 of the NEM:WA. The review process also assists in identifying the key issues and challenges preventing the effective implementation of the IWMP. An IWMP is to be reviewed every five years in line with the IDP requirements. Apart from reviewing the IWMP every five years the annual performance reports act as a reviewing mechanism wherein the municipality should evaluate its progress and should take steps in ensuring that it does not lack behind in reaching the goals and targets set out in the implementation plan. Refer to **Section** Error! Reference source not found. for the detailed review findings.

1.4.2 Literature Review

A review of all the relevant guidelines, policies, and legislation was undertaken. This includes:

- National Waste Management Strategy 2020 (DFFE, 2020)
- Statistics SA 2022 Census (Stats SA, 2022)
- Guideline for the development of IWMP's (DFFE, 2009)
- IWMP Toolkit (DFFE-IWMP, 2025)
- KwaZulu-Natal Community Survey 2016 (Stats SA, 2018)
- Inception Report: Development of the KwaZulu-Natal IWMP (INR, 2022)
- Draft Harry Gwala District Integrated Waste Management Plan, 2020 (HGDM, 2020)
- NDZM Spatial Development Framework

Refer to **Section** Error! Reference source not found. for a review of the above documents.

1.4.3 Site Visits and Ground-Truthing

A site inspection of all the waste management facilities in the NDZM was held on the 12th of February 2025. Refer to **Section** Error! Reference source not found. for the findings.

1.4.4 Engagements with the NDZM

The following meetings have been held to date as indicated in **Table 1-2** below .

Table 1-2: Engagements on the drafting of the IWMP

Type of meeting	Date
Project Inception	02 October 2024
Site Meeting	12 February 2025
Draft Report Review Meeting	19 March 2025
Objectives scoping meeting	28 July 2025

1.4.5 Project Steering Committee

The project steering committee has the key oversight and decision-making role in the IWMP, and provides strategic guidance, approving key project outputs and budgets, and resolving significant issues. The members represent various stakeholders, including government, business, industry, and NGOs, who are directly involved in the drafting, implementation, and monitoring of the IWMP. The committee's primary role is to ensure the IWMP is in alignments with its objectives, facilitate collaboration among different sectors, and make recommendations for the effective implementation and evaluation of the IWMP. The key members identified in the formulation of this IWMP are listed in **Table 1-3** below.

Table 1-3: Details of the Project Steering Committee

Organisation	Name	Designation
Dr Nkosazana Dlamini Zuma Local Municipality	Mrs Nqobile Nxele	Project Manager
Harry Gwala District Municipality	Ms Bulewa Mchunu	Environmental Health Manager
KwaZulu-Natal Department of Economic Development and Environmental Affairs	Nhlanhla Mpondi	Regional Director: Harry Gwala District
Department of Forestry, Fisheries, and the Environment (DFFE)	Mr Malcolm Mogotsi	Director: Municipal Waste Support
Ezemvelo Wildlife		
The Harry Gwala District Chamber of Business		

1.4.6 Presentations and Workshops

Public Participation workshops on the Draft IWMP will be undertaken at Bulwer, Creighton, Himeville, Underberg, and Donnybrook. The dates for the workshops will be advertised and communicated in advance.

1.4.7 Public Participation Process (PPP)

The Draft IWMP will be made available for public review for a period of 30 days. Hard copies will be made available at all the public libraries in the NDZM, and an electronic copy made accessible on the NDZM website. Communication will be done through newspaper adverts and any other available communication platforms within the NDZM.

1.4.8 Assumptions and Limitations

This IWMP is based on available information on the time of compilation. Information was limited and the following data was not available:

- Waste characteristics – no waste characterisation since the initial IWMP. This information helps determine appropriate methods for waste diversion, reduction, recycling, treatment, and disposal by understanding what materials make up the waste;
- Waste type and quantities – there is no data on the type and amount of waste received at the Creighton Disposal site and Himeville Waste Transfer facility;
- No available inventory on waste equipment, vehicles and machinery;
- No waste management expenditure records over the past five years; and
- No annual performance assessment reports.

2 SCOPE OF THE NDZM INTEGRATED WASTE MANAGEMENT PLAN

The NDZM Integrated Waste Management Plan (IWMP) Five Year Plan (2021-2026) was developed in response to the growing demand to manage waste in an environmentally sustainable manner as required in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

According to the NDZM IDP 2023/24, the main scope of the IWMP is to:

- Promote recycling and recovery of waste by contributing towards the growth of the green economy and promoting waste minimisation.
- Ensure the effective and efficient delivery of waste services to all communities.
- Provide the public with safe and accessible waste disposal facilities.
- Education and awareness must be raised in respect of waste management.
- Maintain and provide compliant waste disposal sites according to waste management licence/norms and standards.

The implementation plan of the IWMP was mainly focused on the following:

- Provide receptacles for household waste and CBD-Purchase of drums;
- Purchase of skip bins for illegal dumping sites;
- Review tariffs in accordance to the costs of rendering waste services; this is to increase waste revenue-Municipal tariffs review is underway;
- Review of Municipal Integrated Waste Management by-law; and
- Annual programme of environmental awareness campaigns.

All the above actions were achieved with the Integrated Waste Management By-laws enacted in 2024.

2.1 Review of the Integrated Waste Management Plan

The Department of Forestry, Fisheries and the Environment (DFFE) - Integrated Waste Management Plan (IWMP) Tool Kit describes the IWMP review as a process that evaluates how well a municipality is implementing its waste management plan (DFFE-IWMP, 2025). The review process helps to ensure that the plan is being carried out successfully and that its goals are being met. The DFFE-IWMP Tool Kit summarises the IWMP review by answering the following critical questions:

Why is an IWMP review important?

- It helps municipalities identify areas for improvement.
- It helps municipalities ensure that they are meeting their waste management targets.
- It helps municipalities make decisions about how to manage waste in the future.

How often should an IWMP be reviewed?

- An IWMP should be reviewed every five years.
- Annual performance reports should also be prepared to evaluate progress.

What happens during an IWMP review?

- The review process compares the actual performance of the plan against the targets set out in the implementation plan.
- The review process may identify areas where the plan needs to be adjusted.

2.2 Review Method and Approach

Sinohydro was appointed by the NDZM to review their first generation IWMP Five Year Plan (2021-2026). This first generation IWMP was developed in 2021 and was approved for implementation by the Council Committee in 2022 after a public participation review process.

The review process of the IWMP involved the following actions:

- Conduct a desktop review of the IWMP and supporting documents to identify the scope of work and required information;
- Liaise with NDZM Environmental Officer on the scope of work and required information;
- Conduct a site inspection of all the existing waste disposal sites and waste transfer facility to evaluate the status quo;
- Compile draft IWMP review report based on the above findings and provide recommendations;
- Provide the public the opportunity to comment on the draft IWMP review report and hold public information sessions;
- Capture all comments received and identify information gaps in the draft IWMP review report;
- Finalise the IWMP review report and submit to NDZM for approval,

The review of the IWMP was conducted in line with the annual performance report requirements under Section 13 of the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008)³. The annual performance report must contain information on the implementation of its integrated waste management plan, including information on-

- a. the extent to which the plan has been implemented during the period;
- b. the waste management initiatives that have been undertaken during the reporting period;
- c. the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;
- d. the level of compliance with the plan and any applicable waste management standards;
- e. the measures taken to secure compliance with waste management standards;
- f. the waste management monitoring activities;
- g. the actual budget expended on implementing the plan;
- h. the measures that have been taken to make any necessary amendments to the plan;
- i. in the case of a province, the extent to which municipalities comply with the plan and, in the event of any non-compliance with the plan, the reasons for such non-compliance: and
- j. any other requirements as may be prescribed by the Minister.

The main approach in the review process was to determine whether the NDZM has complied with the above requirements on reporting on the implementation of its IWMP.

A review of the NDZM Annual Performance Reports for the financial year 2021/2022 and 2022/2023 was conducted to ascertain if all the above information is included. No information on the implementation of the IWMP was included in both Annual Performance Reports.

³ As amended by National Environmental Management Laws Amendment Act 14 of 2013; National Environmental Management Laws Amendment Act 25 of 2014; National Environmental Management: Waste Amendment Act 26 of 2014; and National Environmental Management Laws Amendment Act 2 of 2022

A site survey of the existing waste management facilities within the NDZM was conducted as part of the status quo assessment. Refer to **Section** *Error! Reference source not found.* for the details of the assessment and site survey findings.

The main objective for reviewing the IWMP is to ensure that it is implemented successfully. An IWMP is to be reviewed every five years in line with the IDP requirements. Apart from reviewing the IWMP every five years the annual performance reports should also act as a reviewing mechanism wherein the municipality should evaluate its progress and should take steps in ensuring that it does not lack behind in reaching the goals and targets set out in the implementation plan.

DRAFT

3 APPLICABLE POLICIES AND LEGISLATION

This section provides an overview of the applicable legislation, policies, and standards, and the challenges that the NDZM is facing in ensuring compliance.

3.1 National

3.1.1 National Waste Management Strategy, 2020

The National Waste Management Strategy (NWMS) 2020 is a legislative requirement of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended (NEM:WA) the “Waste Act” (DFFE, 2020). The purpose of the NWMS is to achieve the objectives of the NEM:WA. Organs of state and affected persons are obliged to give effect to the NWMS.

This NWMS 2020 revises and updates the 2011 strategy by building on the successes and lessons from the implementation of that strategy and addressing the challenges and gaps identified. The challenges and gaps addressed in the NWMS 2020 include:

- Addressing the role of vulnerable groups, waste pickers and the informal sector and supporting women, youth and people living with disabilities in the circular economy;
- Promoting approaches to the design of products and packaging that reduce waste or encourage reuse, repair and preparation for recycling, support markets for source separated recyclables;
- Investigating potential regulatory or economic interventions to increase participation rates in residential separation at source programmes;
- Investing the economies associated with transporting of recyclables to waste processing facilities;
- Addressing the skills gap within the sector with a special focus on women, youth and people living with disabilities; and
- Engagement with the National Treasury regarding the operational expenditures for municipalities associated with implementing the NWMS and the Waste Act.

The NWMS 2020 is premised on three (3) pillars which will see a future South Africa with zero waste in landfills; cleaner communities, well managed and financially stable waste services, and a culture of zero tolerance of pollution, litter and illegal dumping. The SA Government aims to achieve these priorities through the following three (3) supporting pillars:

- i. Waste Minimisation;
- ii. Effective and Sustainable Waste Services; and
- iii. Compliance, Enforcement and Awareness.

Collectively, the outcomes, strategic pillars, interventions and actions consolidate and builds on the following eight (8) overarching goals of the 2011 strategy

- i. promote waste minimisation, re-use, recycling and recovery of waste
- ii. ensure the effective and efficient delivery of waste services
- iii. grow the contribution of the waste sector to the green economy
- iv. ensure that people are aware of the impact of waste on their health, well-being and the environment
- v. achieve integrated waste management planning
- vi. ensure sound budgeting and financial management for waste services
- vii. provide measures to remediate contaminated land
- viii. establish effective compliance with and enforcement of the Waste Act.

The NWMS 2020 gives effect to the objects of the Waste Act and thus provides for:

- Institutional arrangements and planning matters i.r.o waste management;
- National norms and standards that regulate waste management by all spheres of government;

- Specific waste management measures;
- Licensing and control of waste management activities;
- Remediation of contaminated land;
- National waste information system;
- Compliance and enforcement;
- Clearly defined roles and responsibilities of all waste management stakeholders;
- A high- level implementation plan with targets, timeframes and accounting and reporting arrangements; and
- A monitoring and evaluation framework.

The NWMS expects the following outcomes to be achieved through the effective and efficient implementation of the NWMS 2020 by all stakeholders from all sector of society:

- Prevent waste, and where waste cannot be prevented ensure – 40% of waste from diverted from landfill within 5 years; 55% within 10 years; and at least 70% within 15 years leading to Zero-Waste going to landfill;
- All South Africans live in clean communities with waste services that are well managed and financially sustainable; and
- Mainstreaming of waste awareness and a culture of compliance resulting in zero tolerance of pollution, litter and illegal dumping.

The strategic approach adopted by the NWMS 2020 to achieving these outcomes is in promoting a circular economy which seeks to move away from a take-make-waste industrial model to one that decouples economic activity from the environment and supports a just transition to renewable energy sources. The three key principles of a circular economy are: design out waste and pollution, keep products and materials in use and regenerate natural systems. These key principles support the NWMS 2020 strategy for waste minimisation through the circular economy, and waste prevention and “waste as a resource” have been identified as the strategic entry points:

Waste prevention - emphasises on avoiding and reducing waste before substances, materials and products are discarded i.e. before they become waste through a focus on the design and packaging of products and cleaner production. Products’ environmental impacts are determined at the design phase, while the linear pattern of “take-make-use dispose” can be eliminated if manufacturers of products adopt circularity in the design phase. The main economic driver is identified as to avoid the costs to businesses and the public sector associated with waste collection and disposal.

Waste as a resource - focuses on stimulating a secondary resources economy based on recycling and recovery of materials and energy from waste i.e. interventions that take place after a product or material has become waste. According to the NWMS 2020, circularity can deliver substantial material savings throughout value chains and production processes, generate extra value, transformation of industry towards climate-neutrality, long-term competitiveness and unlock economic opportunities (DFFE, 2020)

The second generation of the NDZM IWMP needs to be aligned with the outcomes and key principles of the NWMS 2020.

3.1.2 National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)

The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended⁴ (NEM:WA) is the main legislation for waste management in South Africa and aims to:

- reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development;

⁴ National Environmental Management Laws Amendment Act 14 of 2013, National Environmental Management Laws Amendment Act 25 of 2014, National Environmental Management: Waste Amendment Act 26 of 2014, and National Environmental Management Laws Amendment Act 2 of 2022

- provide for institutional arrangements and planning matters;
- provide for national norms and standards for regulating the management of waste by all spheres of government;
- provide for specific waste management measures; to provide for the licensing and control of waste management activities;
- provide for the remediation of contaminated land;
- provide for the national waste information system;
- provide for compliance and enforcement; and
- provide for matters connected therewith.

Section 7 of NEM:WA requires the Minister to set out national norms and standards for the:

- a) classification of waste;
- b) planning for and provision of waste management services; and
- c) storage, treatment and disposal of waste, including the planning and operation of waste treatment and waste disposal facilities.

Section 9 of the NEM:WA requires the Municipality to exercise its executive authority to deliver waste management services, including waste removal, waste storage and waste disposal services, in a manner that does not conflict with section 7 or 8 of the Act. The Municipality is required to perform its duties in relation to waste collection, waste storage and waste disposal services, by:

- a) adhering to all national and provincial norms and standards;
- b) integrating its waste management plans with its integrated development plans;
- c) ensuring access for all to such services;
- d) providing such services at an affordable price, in line with its tariff policy referred to in Chapter 8 of the Municipal Systems Act;
- e) ensuring sustainable services through effective and efficient management;
- f) keeping separate financial statements, including a balance sheet of the services provided.

The Municipality is further required in terms of subsection 9(3) to set out:

- a) local standards for the separation, compacting and storage of solid waste that is collected as part of the municipal service or that is disposed of at a municipal waste disposal facility;
- b) local standards for the management of solid waste that is disposed of by the municipality or at a waste disposal facility owned by the municipality, including requirements in respect of the avoidance and minimisation of the generation of waste and the re-use, recycling and recovery of solid waste;
- c) local standards in respect of the directing of solid waste that is collected as part of the municipal service or that is disposed of by the municipality or at a municipal waste disposal facility to specific waste treatment and disposal facilities; and
- d) local standards in respect of the control of litter.

The appointment of a Waste Management Officer (WMO) responsible for co-ordinating matters pertaining to waste management in the Municipality is required in terms of Section 10(3) of the NEM:WA.

Sections 11 and 12 of NEM:WA require the preparation of Integrated Waste Management Plans (IWMPs), and Section 13 specifically sets out the requirements for reporting on the implementation of IWMPs.

The general duty in respect of waste management is set out in Section 16 of NEM:WA, which requires a holder of waste to take all reasonable measures to:

- a) avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated;
- b) reduce, re-use, recycle and recover waste;

- c) where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;
- d) manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;
- e) prevent any employee or any person under his or her supervision from contravening this Act; and
- f) prevent the waste from being used for an unauthorised purpose.

Section 20 of the NEM:WA requires waste management activities that have, or are likely to have, a detrimental effect on the environment to apply for a waste management licence or comply with the requirements or standards determined in terms of section 19 (3) for that activity.

The NDZM waste management activities that have, or are likely to have, a detrimental effect on the environment are indicated in **Table 3-1** below.

Table 3-1: NDZM waste management activities listed in GN 921 of 2013

Waste Management activity	Applicable activity as listed in GN 921, 2013 ⁵	
Disposal of waste – Creighton and Bulwer waste disposal sites	Category A (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 50 m² but less than 200 m² and with a total capacity not exceeding 25 000 tons. (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). (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. (14) The decommissioning of a facility for a waste management activity listed in Category A or B of this Schedule.	Waste Management Licence
Himeville Waste Transfer Facility	Category C (1) The storage of general waste at a facility that has the capacity to store in excess of 100 m³ of general waste at any one time, excluding the storage of waste in lagoons or temporary storage of such waste.	Norms and Standards for Storage of Waste, published under Government Notice R926 in Government Gazette 37088 of 29 November 2013; or

⁵ List of Waste Management Activities that have, or are likely to have, a Detrimental Effect on the Environment Published under GN 921 in GG 37083 of 29 November 2013, as amended by: GN 332 in GG 37604 of 2 May 2014; GN R633 in GG 39020 of 24 July 2015; GN 1094 in GG 41175 of 11 October 2017; and GN 1757 in GG 45907 of 11 February 2022

	(2) The storage of hazardous waste at a facility that has the capacity to store in excess of 80 m³ of hazardous waste at any one time, excluding the storage of hazardous waste in lagoons or temporary storage of such waste. (6) The sorting, shredding, grinding, crushing, screening or baling of general waste at a waste facility that has an operational area that is 1 000 m and more. (7) The treatment of organic waste using composting and any other organic waste treatment.	Norms and Standards for the Sorting, Shredding, Crushing, Screening or Baling of General Waste, published under Government Notice 1094 in Government Gazette 41175 of 11 October 2017; or National Norms and Standards for organic waste composting published under Government Notice 561 in Government Gazette 44762 of 25 June 2021.
--	---	--

Information on the volumes of waste re-used, reduced and recycled is not readily available in South Africa due to current lack of provincial and national waste information systems

Local authorities are mandated to collect, handle and dispose of domestic waste from all households, and to ensure an equitable service to their communities.

3.1.3 National Domestic Waste Collection Standards, 2011

The National Domestic Waste Collection Standards, 2011, (NDWCS) are based on the following principles:

- Equity;
- Affordability and availability of resources within municipalities;
- Clarity and ease at which the standards can be implemented;
- Practicality; and
- Community participation in the design of applicable and appropriate collection systems.

The standards are premised on redressing past imbalances in the provision of waste collection services by ensuring municipalities provide waste collection services that are of acceptable, affordable and sustainable for all South Africans. According to the NDWCS, the provision of affordable and sustainable waste collection services improves the quality-of-life of the entire community and ensures a clean and more acceptable place to live and work in. The lack of or poor-quality waste collection services can however result in a number of environmental and human health problems.

3.2 Provincial

3.2.1 KwaZulu Natal Integrated Waste Management Plan 2023 - 2028

The first generation provincial IWMP (provincial IWMP), dated April 2025, highlights the increased volumes of waste generation and complexity of the waste stream as the main challenge to achieving sustainable and self-sufficient waste management in the province (KZN DEDET, 2025). The increase in waste volumes is attributed to economic development activities and rising population and urbanisation growth rates. This, according to the provincial IWMP, has placed enormous pressure on waste management facilities across the province, especially in metropolitan areas. The provincial IWMP further identifies additional threats posed by hazardous waste mixing with general waste, illegal dumping and

aging infrastructure. The potential impact of climate change through extreme weather events such as floods is also considered as a major threat to the establishment and implementation of effective waste management policies and programmes.

To address these threats, the provincial IWMP roadmap and intervention tool seeks to (1) ensure the provision of efficient and effective waste management services to the households including indigents of the province of KZN, and (2) identify interventions to curb and/ or respond to the growing rate of waste generation within the province. *“The Plan is designed to encourage stakeholders to take responsibility for their waste and alter their waste management behaviour in recognition of the inter-dependencies between waste management and climate change mitigation and adaptation – giving rise to the overarching theme for the Plan, Our People and Our Waste in a Changing Climate”* (KZN DEDET, 2025).

The following major challenges in solid waste management were identified across the province as part of the status quo analysis results:

- Limited capacity across municipalities within the Province to manage waste effectively;
- Variable combinations of insufficient, unregulated and inappropriate waste reclamation in the residential, business and landfill settings;
- Lack of appropriate or adequate plans and policies;
- Inadequate compliance and enforcement;
- Lack of skills development programmes;
- Lack of awareness around waste management;
- Limited recycling and reuse strategies in place;
- Inadequate and/ or dysfunctional infrastructure;
- Domestic hazardous waste is not managed;
- Illegal dumping;
- Ineffective monitoring and evaluation;
- Waste management not prioritised in terms of budget; and
- Lack of/ limited revenue.

The above challenges are attributed to: lack of access to and/ or knowledge of modern technology, practices and systems (waste diversion programmes; separation at source policy); lack of governmental support; limited or no climate proofing; limited entrepreneurial initiatives, value chain creation and access to markets; under-exploited potential for job creation and an informal sector that has the potential to interrupt established value chains.

The provincial IWMP has identified five strategic goals to address these challenges, which ultimately define the Desired End State. These goals, according to the provincial IWMP, should be seen as the wide, overarching Desired End State (intentions/ambitions) while the Objectives are the measurable steps that need to be taken to achieve these goals.

Goal 1: Increase waste diversion in all Municipalities / Districts

- Increase waste diversion from landfill disposal by 55%
- Increase waste minimisation and recycling by 30%

Goal 2: Improve implementation of Integrated Waste Management Planning in all Municipalities / Districts

- Ensure plans and policies for effective waste management services are fully integrated into all municipalities / district plans
- Ensure effective maintenance and/ or improvement of Waste Management Facilities

Goal 3: Deliver sustainable waste services in all Municipalities / Districts

- To promote municipalities and districts to implement national domestic waste collection standards and ensure adequate resources are in place to ensure cost-effective waste management infrastructure and services
- Ensure sufficient and appropriately skilled staff to meet waste management needs
- Ensure the safe and proper disposal of waste
- Ensure sound and sustainable budgeting and financing/ funding of waste infrastructure and management services

Goal 4: Mainstream waste education, awareness, compliance and enforcement across all sectors and spheres of society

- Increase residents' knowledge and awareness around the impacts of waste on human and environmental health
- Improve participation in waste management planning by the public and other stakeholders
- Improved waste management institutional functioning and capacity
- Ensure effective monitoring and reporting on SAWIC for the attainment of provincial IWMP goals, targets and timeframes

Goal 5: Initiate climate-resilient waste infrastructure and systems for all Municipalities / Districts

- Ensure climate proofing of all waste disposal facilities and waste infrastructure against major flood and disaster events
- Increase awareness on the potential impacts of climate-related disasters on waste management infrastructure
- Ensure relevant national climate change mitigation and adaptation goals are integrated into waste management planning and practices

3.3 District

3.3.1 Draft Harry Gwala District Integrated Waste Management Plan, 2020

According to the draft IWMP, the role or responsibility of the Harry Gwala District Municipality (HGDM) is to:

- Ensure availability of relevant plans (IWMP) regarding waste management in all Local Municipalities.
- Provide support and guidance in the implementation of the IWMP's.

The draft IWMP indicates the NDZM has had a significant increase in the number of households that receive a refuse removal in particular Underberg where waste services has been expanded through EPWP participants. To cater for this increase, the draft IWMP recommends all local municipalities and the district should take into account waste generation predictions into their planning.

3.4 Local

3.4.1 NDZM Integrated Waste Management By- laws, 2024

The Integrated Waste Management (IWM) By-laws, gazetted by the NDZM in 2023, are aimed at regulating the avoidance, minimisation, generation, separation, storage, processing, collection, treatment, recycling, reuse, and disposal of waste. The IWM By-laws are identified as the main driver for the implementation of the IWMP, and the NDZM recognises its obligation to regulate and control waste management so as to ensure a safe, healthy, and sustainable environment and to ensure the rights of individuals are protected. The By-laws are based on the requirements of NEM:WA. Chapter 2 Part 3 requires the NDZM to establish a municipal waste information system for the recoding, collection, management and analysis of data and information. The collection of waste information is critical for monitoring the implementation plan.

4 SITUATION ANALYSIS

The main objective of this section is to analyse and quantify all aspects pertaining to the management of waste within the NDZM boundary (including all types of settlements). It includes the current status with regards to the delivery of waste services and waste picker activities in the NDZM, number of residents in the municipality, demographic profile and socio-economic composition. It also includes the amount and type of waste that is being generated, recycled, recovered, treated and disposed. Information on resources i.e. financial and human capital including equipment is also indicated under this section. The existing waste management situation in the NDZM is described based on information provided by the NDZM, and audit reports of the waste disposal sites. A site inspection was held on 12th February 2025 for ground-truthing.

This section describes the Socio-economic profile of NDZM. The DFFE IWMP online toolkit highlights this information is required to:

- Ensure that previously un-serviced areas, such as informal settlements and rural or sparsely populated areas are considered;
- Form the basis for projected waste volumes and types;
- Evaluate potential for financial recovery; and
- Assess the required resources to provide waste management services and infrastructure.

4.1 Demographic Profile

The demographic profile of the NDZM in **Table 4-1** below, shows the total population in the NDZM grew by 24.4% percent from the period 2011 to 2022 with an annual population growth rate of 2.4% in the intercensal period (Stats SA, 2022). The population of South Africa increased from 51,7 million in 2011 to more than 62 million in 2022; a growth rate of 1,8% in the intercensal period. The high population growth rate in the NDZM is reflected by a large young population with 60.6% of the working age population. This trend is reflected in KZN, where the median age in 2022 is 27 years. The dependency ratio is also high (64.9%) and dropped by 11,3% between the period 2011 – 2022.

Table 4-1: Demographic profile of NDZM (Stats SA, 2022)

Name	2022	2011
Total population	128 565	103 318
Young children (0-14 years)	32,8%	38,2%
Working age population (15-64 years)	60,6%	56,8%
Elderly (65+ years)	6,5%	5,1%
Dependency ratio	64,9	76,2
Sex ratio	89,9	89,0
No schooling (20+ years)	9,9%	13,2%
Higher education (20+ years)	5,0%	4,6%
Number of households	25 525	24 581
Average household size	5,0	4,2
Formal dwellings	55,1%	35,2%
Flush toilets connected to sewerage	31,5%	17,4%
Weekly refuse disposal service	23,1%	10,8%
Access to piped water in the dwelling	26,2%	16,3%
Electricity for lighting	96,6%	53,0%

The average household size was 4.2 in 2011 and increased by a marginal 19% to 5. More than half of the population (55.1%) is now in formal dwellings compared to 2011. However, the number of households only increased by 3.84% from 2011 to 2022. This means the number of households were increasing by 0.384% per year. If the trend remains the same, the number of households that require waste management services would have grown to 26 505 by 2032.

The youthful population is illustrated by a wide base in the population pyramid with only 6.5% of the population above 65 years (refer to **Figure 4-1**). The drop in the population above 65 years also indicates a high mortality rate.

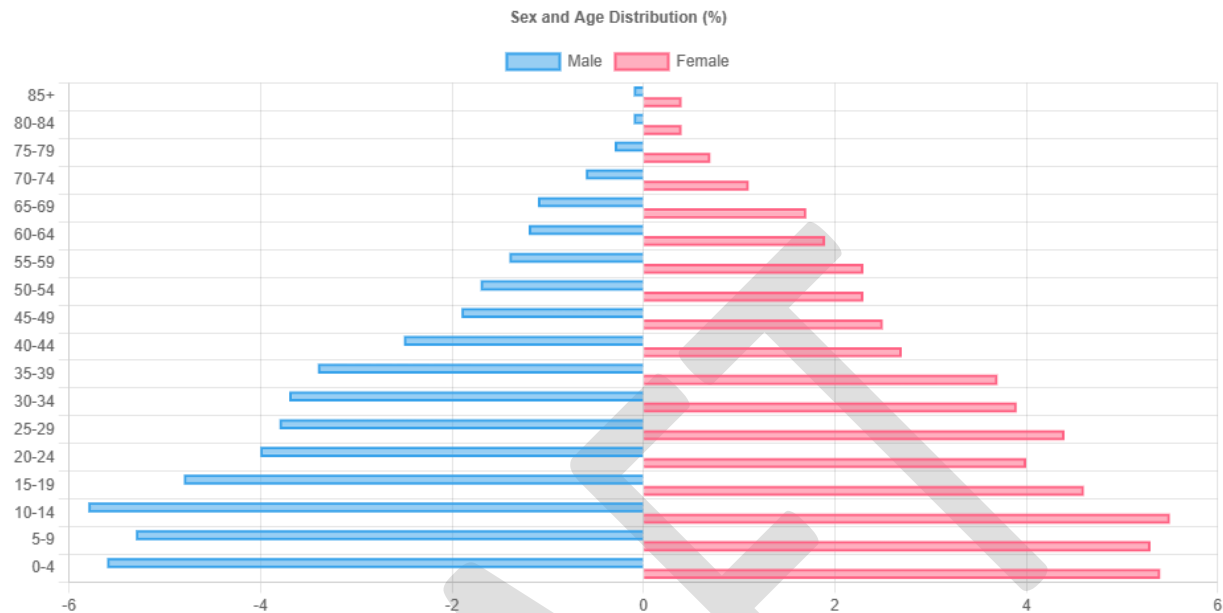


Figure 4-1: Population pyramid for NDZM (Stats SA, 2022)

The density of a population tells us the average population size per square kilometre. **Table 4-2** below shows the population density of all the municipalities within the HGDM in 2011 and 2022. The population density of the NDZM grew by 24.13%, meaning that an average of 36 persons resided in one square kilometre in 2022. This is the second lowest density compared to other municipalities in the HGDM.

Table 4-2: Population density by district & local municipality, census 2011-2022 (Stats SA, 2024)

District /Local Municipality	Area km ²	Population Size		Density	
		Census 2011	Census 2022	Census 2011	Census 2022
DC43 Harry Gwala	10 387	460 526	563 893	44	54
KZN433 Greater Kokstad LM	2 680	65 981	81 676	25	30
KZN434 Ubuhlebezwe LM	1 670	110 925	133 032	66	80
KZN435 Umuzimkhulu LM	2 436	180 302	220 620	74	91
KZN436 Dr Nkosazana Dlamini Zuma LM	3 602	103 318	128 565	29	36

The level of tertiary education in the NDZM is low, with only 5% of the population above 20 with higher education. This only increased by a marginal 0.4% between the period 2011 and 2022. However, it is notable that the number of people with no schooling above the age of 20 dropped from 13.2 % in 2011 to 9.9% in 2022. Nearly three-quarters (80.7%) of the population aged 5 to 24 years in the NDZM are attending some form of schooling as shown in **Table 4-3** below.

Table 4-3: Attendance at an educational institution (5-24 years), Census 2022

Name	Frequency	%
Yes	38 809	80,7%

No	9 256	19,3%
----	-------	-------

The majority of the population in NDMZ are Black Africans, followed by Indian /Asian, with isiZulu being the dominant language spoken by 80% of the population, followed by English at 14.4%.

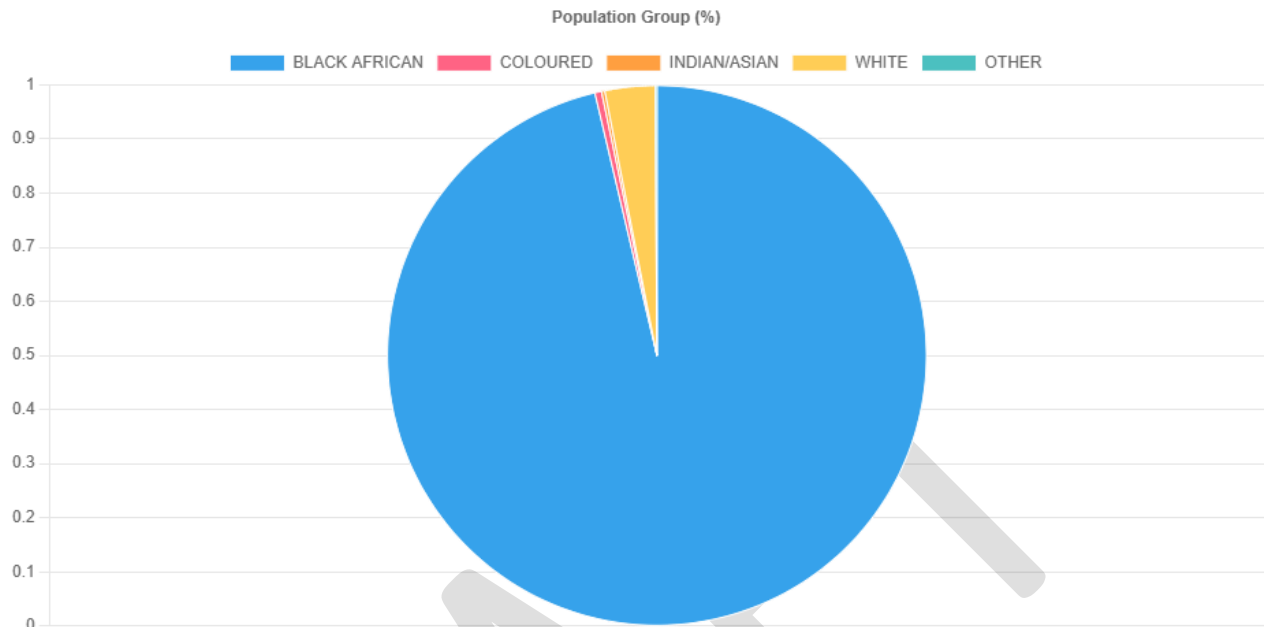


Figure 4-2: Percentage Race in NDZM (Stats SA, 2022)

4.2 Socio-economic Profile

The NDZM has a high unemployment rate especially among the youth population, with 75% of young people within the municipal area unemployed based on the Community Survey (CS) 2016 (Stats SA, 2018).

NDZM has witnessed marked improvements in basic services and infrastructure over the period between 2011 and 2022. The most significant increase was in access to electricity for lighting, which rose to 96.6% in 2022. Another notable improvement was in formal dwellings, an increase of 19.9% in 2022. The number of people with access to refuse disposal services increased from 10,8% in 2011 to 23.1 % in 2022.

Table 4-1 Indicates about 14 068 (55.1%) households in NDZM live in formal dwellings compared to 11 303 recorded in the CS 2016. The number of informal dwellings decreased significantly from 2813 recorded in the 2016 Community Survey, to 726 as per the 2022 census.

Table 4-4: Distribution of households by type of main dwelling in the NDZM (Stats SA, 2022)

Name	CS 2016	2022	% of Total Households
Formal dwelling	11 303	14 068	55,1%
Traditional dwelling	15 414	10 322	40,4%
Informal dwelling	2 813	726	2,8%
Other	89	408	1,6%

Table 4-5 indicates the number of households with own refuse dumps is still significantly high with 62.4% of the total households, but the figure dropped from 22 769 in the CS 2016 to 15 926 in the 2022 census. The number of households whose refuse is removed at least once a week by the local authority is still significantly low (23.1%) and slightly improved by 1064 compared to the CS 2016 results.

Table 4-5: Distribution of households by refuse removal (Stats SA, 2022)

Name	CS 2016	2022	% of Total Households
Removed by local authority at least once a week	4822	5 886	23,1%
Removed by local authority less often	524	279	1,1%
Communal refuse dump	286	549	2,2%
Communal container/central collection point		1 068	4,2%
Own refuse dump	22 769	15 926	62,4%
No Rubbish Disposal	954	352	1,4%
Other	263	1 465	5,7%

Table 4-6 below shows the same results for all the municipalities within the HGDM. The NDZM has the lowest number of households with no rubbish disposal in comparison to other district municipalities. However, the number of households.

Table 4-6: Distribution of households by type of refuse removal, district & municipality, Census 2022 (Stats SA, 2024)

District /Local Municipality	Removed once a week		Removed less often than once a week		Communal refuse dump		Own refuse dump		No rubbish disposal	
	N	%	N	%	N	%	N	%	N	%
DC43 Harry Gwala	39 013	33.9	984	2,3	2 651	2.3	59 698	51.9	6 021	5.2
KZN433 Greater Kokstad LM	17 838	78.5	557	2.4	435	1.9	2 422	10.7	424	1.9
KZN434 Ubuhlebezwe LM	5 741	21.5	47	0.2	1052	3.9	17 378	65	1 901	7.1
KZN435 Umuzimkhulu LM	9 311	23.2	101	0.3	614	1.5	23 972	59.8	3 344	8.3
KZN436 Dr Nkosazana Dlamini Zuma LM	6 123	24.0	279	1.1	549	2.2	15 926	62.4	352	1.4

The NDZM waste profile in **Figure 4-3** below shows only 8% of residents are receiving refuse disposal services (KZN DEDET, 2025). However, the total number of households is 25 525 with 14 068 in formal dwellings.

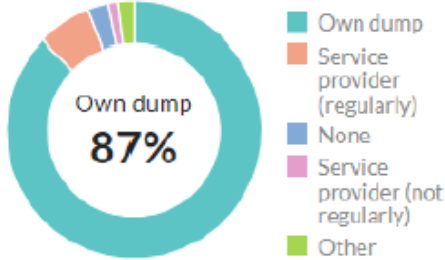
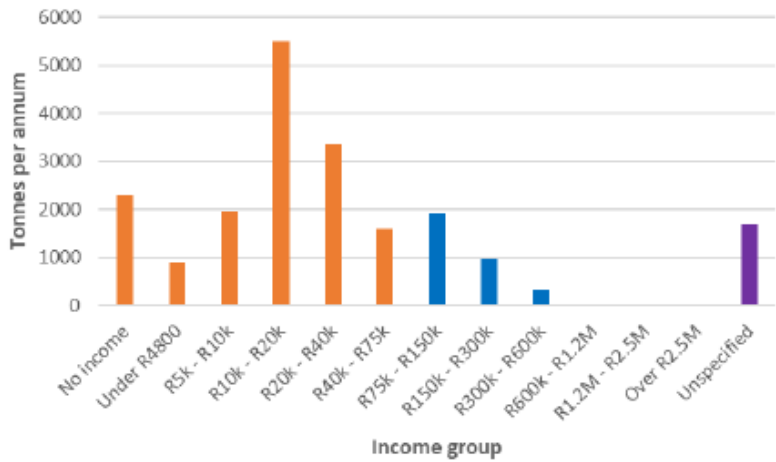
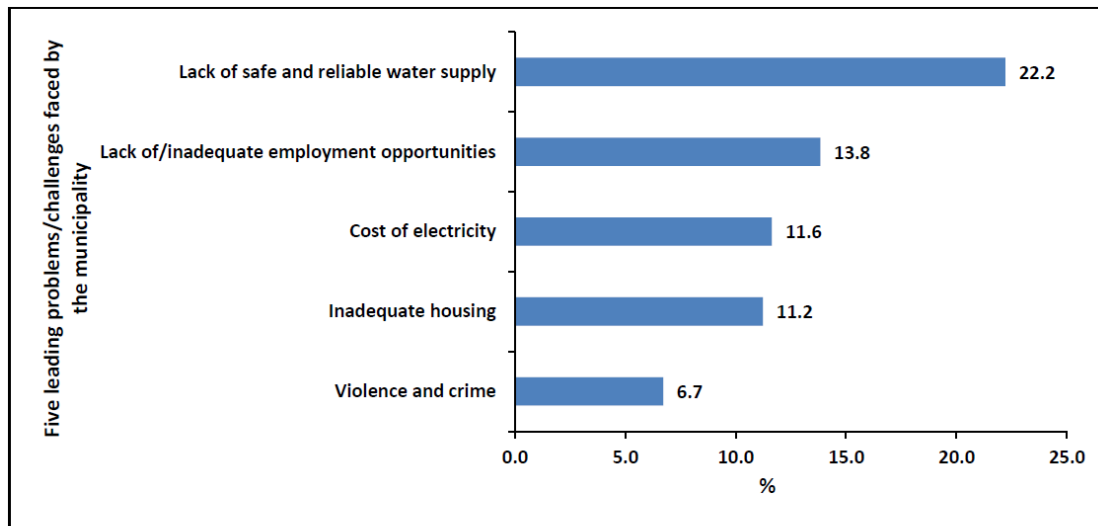
Dr Nkosazana Dlamini Zuma Local	
Population	128 565
Size km²	3 606.1
People per square km²	32.9
Refuse disposal	8% (9 515) of residents are receiving refuse disposal services from a local authority, private company or community member(s). This figure relates to about two-fifths of the rate in Harry Gwala: 19.06% (97 379) and about one-fifth of the rate in KwaZulu-Natal: 43.31% (4 792 529)  Own dump 87% - Own dump - Service provider (regularly) - None - Service provider (not regularly) - Other
SAWIS Tonnage data (2015 -2021)	
• Disposed	38639
• Recovered/ Recycled	No data
• Treated	No data
Estimated waste generation rates (tonnes per annum) based on SA Community Survey 2016	 Tonnes per annum Income group
Active landfills and dumpsites	Creighton landfill site, Bulwer landfill site (Decommisione
Designated WMO	Yes
IWMP status	No – Draft Document

Figure 4-3:Waste profile of the NDZM (KZN DEDET, 2025)

The CS 2016 also includes perceptions on municipal problems and services in the province. The data, as illustrated in **Figure 4-4**, shows that the lack of safe and reliable water supply as the biggest challenge faced by the municipalities in KZN, at 22,2%. This is followed by lack of employment opportunities (13,8%) and the cost of electricity (11,6%). Other challenges that form part of the top five include inadequate housing (11,2%) and violence and crime (6,7%).



The analysis excludes 'None'. About 3,6% households reported no problems/challenges (i.e. 'none') faced by municipality

Figure 4-4: Five leading problems/challenges faced by the municipality in KwaZulu-Natal province (Stats SA, 2018)

The same challenges are also highlighted in the NDZM Final Integrated Development Plan (IDP) 2023/2024 (NDZM, 2023):

- High rate of unemployment and low economic growth
- Inadequate water and sanitation Supply
- Backlog of infrastructure to service rural communities
- Moderate level of crime and risk

The major contributors to employment in the NDZM are identified in the IDP as the agriculture sector, the community services sector and related industries. *“Trade and private household sectors as well as wholesale and retail also contribute to employment”* (NDZM, 2023).

Agriculture is further identified as the main economic activity in the municipality which comprises commercial farming based on semi-intensive beef, dairy farming, potato production and a strong commercial forestry sector. The tourism sector is recognised as the second biggest contributor to the local economy thus creating a number of job opportunities for the local communities.

4.3 Waste quantities and types

4.3.1 Weighbridges

A weighbridge is used to record the amounts of waste entering the 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 (DFFE-IWMP, 2025). The data is captured using weighbridge software programmed with spreadsheet software such as Microsoft Excel or a customized weighbridge software that can simultaneously provide billing information based on the type of waste and the size of the vehicle.

NDZM has a weighbridge at the Himeville Waste Transfer facility. The weighbridge is currently not operational due to a technical fault and the process of appointing an external service provider to do the necessary repairs has already commenced internally. The Creighton Disposal site currently does not have a weighbridge. However, the Department of Economic Development, Tourism and Environmental Affairs has requested to undertake a study on the Creighton Dump site and they will donate an Axal scale in order to complete their research.

A weighbridge operator is required at the Himeville Transfer Station, and later on Creighton Waste disposal site, to accurately record the amount and types of waste disposed of. The data is captured using

weighbridge software programmed with spreadsheet software such as Microsoft Excel or a customized weighbridge software that can simultaneously provide billing information based on the type of waste and the size of the vehicle. In terms of the Legal Metrology Act (Act 9 of 2014) and the Legal Metrology Regulations dated 24 August 2018, the industrial weighbridges used for mass measurement at the facilities must be verified for accuracy using approved methods.

4.3.2 Volume Density Estimation System

Waste mass estimation system uses a formula that requires waste volume, waste density and waste loading to determine the mass entering a waste disposal facility (DFFE-IWMP, 2025). This estimation system is used in instances where a municipality does not have a weighbridge.

On a monthly basis a municipality must compile a summary of the quantities of waste received and should submit this information to the South Africa Waste Information Centre (SAWIC) (DFFE-IWMP, 2025).

Currently, the NDZM quantifies waste at the Himeville Waste Transfer station and Creighton Waste disposal site based on the estimation system. Records of the type of vehicle visiting the site and the type of waste offloaded are recorded. This information is recorded in the SAWIS on a monthly basis.

4.3.3 Waste Stream Analysis

The NDZM generates various types of waste streams typically associated with urban related land uses. Characterisation of the waste stream received at the Himeville Waste Transfer Station was initially conducted in 2019. The Department of Forestry, Fisheries, and the Environment (DFFE) recently conducted another waste characterisation in January 2026 (see photos in **Figure 4-5**). The following method was used to analyse/characterize waste streams:

- Multiple bags of the sample were taken from specialised waste centre.
- The waste was then sorted into different waste streams and placed in refuse bags according to their waste stream;
- The sorted waste streams were then weighed (kg) using a scale.

It must be noted that the results of the analysis are only based on the sample that was analysed, as such, only waste streams that were part of the sample were recorded.

The waste streams identified include cardboard, glass, polystyrene, aluminium cans, HDPE, Tin/Steel cans, hard plastics, mixed plastic, Tetrapack, PET, Textile, and mixed organic waste. A waste analysis of the identified waste streams was conducted by the DFFE, and the results were graphically presented in a pie chart as shown in **Figure 4-6** below.



Figure 4-5: Waste Characterisation by the DFFE conducted at the Himeville Waste Transfer Station in January 2026

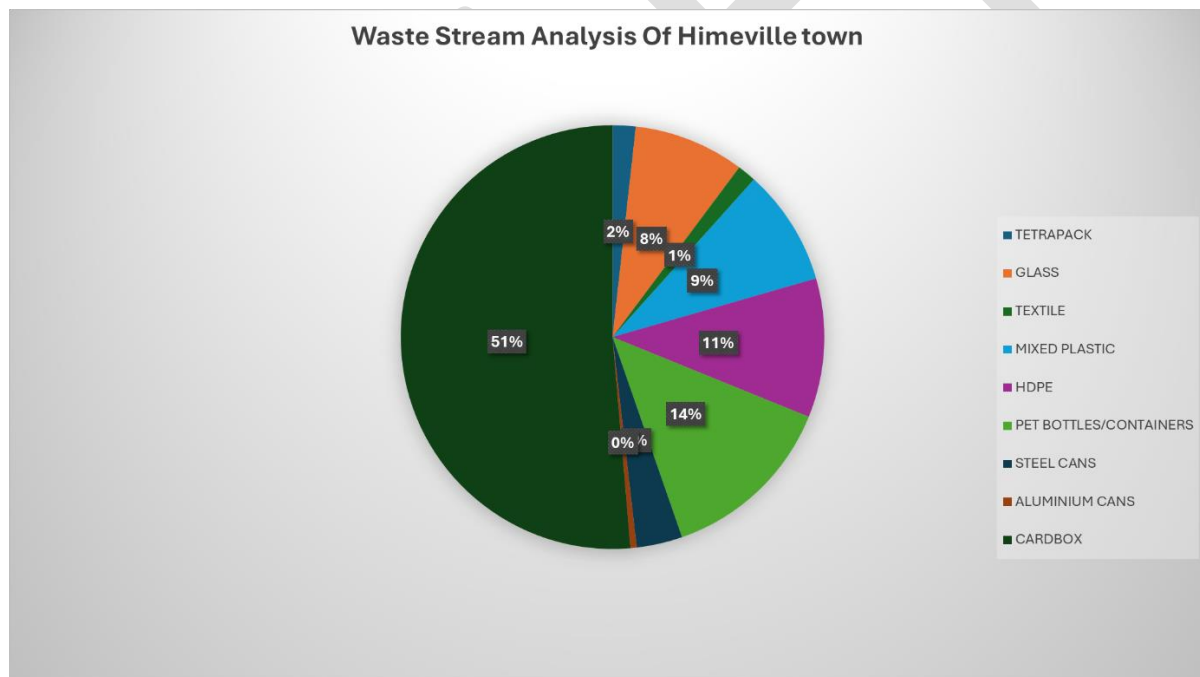


Figure 4-6: Waste stream analysis results (DFFE, 2026)

Waste containing textile was identified as the highest followed by PET bottle/containers, and HDPE material. During the exercise unwanted waste such as medical waste was found in the site on the KZN Wildlife. The DFFE's conclusion based on the analysis results is as follows:

"It is evident that the transfer station receives a lot of recyclables that can contribute to the circular economy. However, a lot of the materials were damaged after arriving at the site which reduces the value of the raw materials that will be recovered from the site, separation at source can help prevent these damages and ensure a high market value".

Based on the above waste type and site observations, the waste generated in the NDZM can be broadly categorised as general and hazardous waste. General Waste is defined in the National Environmental Management: Waste Amendment Act, 2014, as 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; (d) inert waste; or (e) any waste classified as non-hazardous waste in terms of the regulations made under section 69, and includes non-hazardous substances, materials or objects within business, domestic, inert, building and demolition wastes as outlined in **Table 4-7** below.

Table 4-7: General Waste Type stream

General Waste Type	Waste streams
“business waste” means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes, which include:	- Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing - Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard - Wastes from the leather, fur and textile industries - Wastes from thermal processes - Waste from the photographic Industry - Wastes from shaping and physical and mechanical surface treatment of metals and plastics - Oil wastes and wastes of liquid Fuels - Food wastes - Wastes from waste management Facilities - Other wastes not specified in the list
“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, which include:	- discarded concrete, bricks, tiles and ceramics - discarded wood, glass and plastic - discarded metals - discarded soil, stones and dredging spoil - Other discarded building and demolition wastes
“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, which include:	- garden and park wastes - municipal waste - food waste
“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	- discarded concrete, bricks, tiles and ceramics - discarded glass - discarded soil, stones and dredging spoil

and because the toxicity of its leachate is insignificant; and which includes

Hazardous waste is defined as 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 characteristics of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles.

There is no Hazardous Waste disposal facility within the NDZM. In addition, all the waste facilities have a notice board at the main entrance which describes the type of waste permitted (General waste only), and type of waste (Hazardous) not permitted on site. Any hazardous waste brought inadvertently mixed with general waste, including any other hazardous waste within the NDZM, is safely separated and stored in enclosed containers for transportation by a contracted waste service provider to a licenced hazardous waste landfill in Durban.

In addition, the NDZM does not have a dedicated waste composting site for garden and organic waste.

4.4 Waste recycling, treatment and disposal

4.4.1 Status Quo of Waste Disposal Facilities

The NDZM has two waste disposal sites, each in Creighton and Bulwer, and a waste transfer site in Himeville. **Figure 4-7** shows the location of the waste disposal sites and transfer facility.

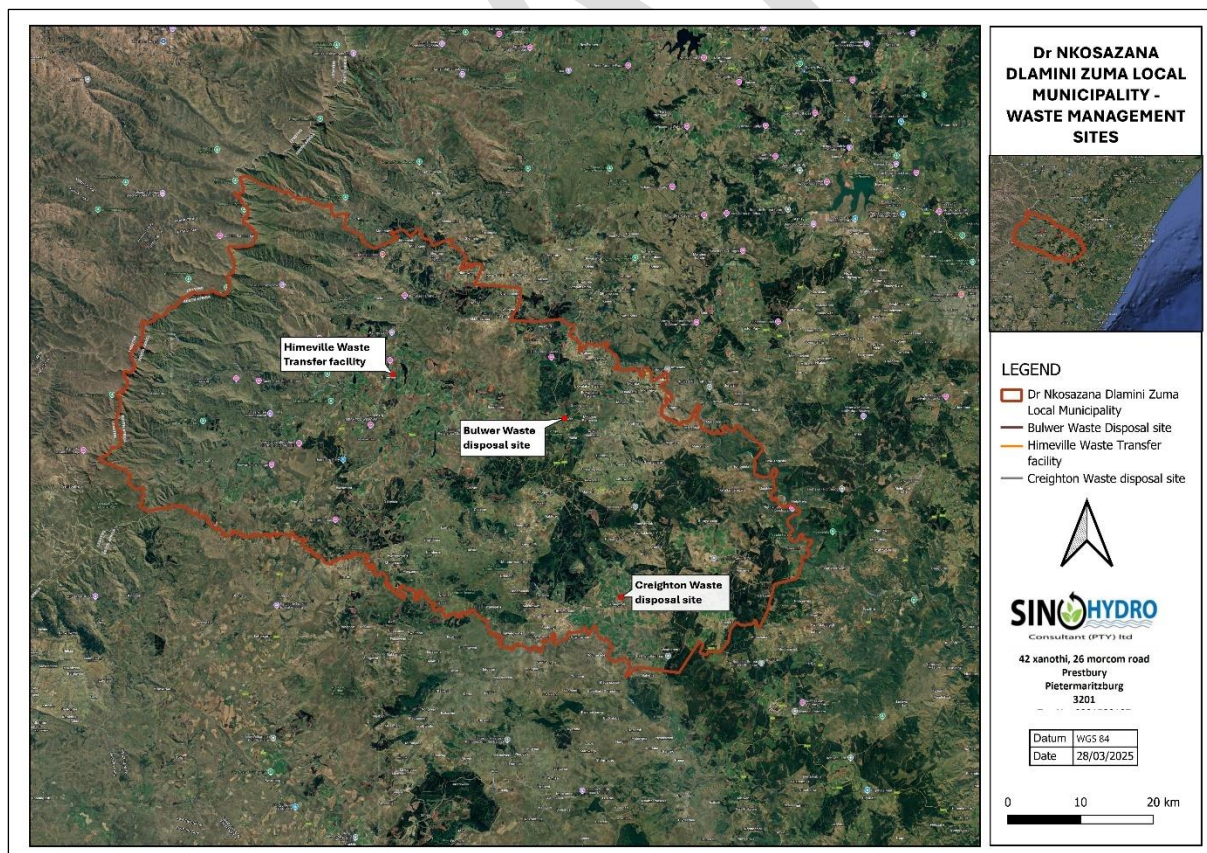


Figure 4-7: Locality Map of the waste disposal and transfer sites within the NDZM

The Creighton and Bulwer Waste disposal sites were licenced in terms of the National Environmental Management: Waste Act 59 of 2008, as part of the Department of Environmental Affairs (DEA) initiative to licence all unlicensed municipal landfills or waste disposal sites by 2015/16 financial year. The Bulwer waste disposal site was licenced in 2014 but reached its operational capacity within 3 years thereafter and was eventually closed in 2018. The Waste Management Licence (WML) for the closure of the Bulwer waste disposal site was granted by the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) in 2023. The WML number and status of the waste disposal site is indicated in **Table 4-8** below.

Table 4-8: Bulwer waste disposal site closure legal status

Bulwer Waste Disposal Site	
Status	Licensed
Closure License number	DC43/WML/0001/2022
Total capacity	6131
Existing capacity	0
Available airspace	0

The Bulwer waste disposal site is closed, and a notice to that effect was observed at the entrance during the site inspection held on the 12th of February 2025 (see Photos in **Figure 4-8** below). Closure of the facility is expected to commence following a successful tender process and appointment of the service provider.



Figure 4-8: Entrance to the closed Bulwer waste disposal site.

The Creighton waste disposal site is currently the only operational landfill site in the NDZM. The WML of the waste disposal site was originally granted for a period of 10 years under the DEA licencing initiative in 2014, and reviewed by the DEDTEA in 2021.

Table 4-9: Creighton waste disposal site legal status

Creighton Waste Disposal Site	
Status	Licensed
License number	DC43/WML/0016/2014/REV2021/01
Total capacity	6131
Existing capacity	6131
Available airspace	0
Audits conducted in terms of the Waste Management Licence conditions	Last audit conducted in 2023

The general condition of the site is shown in Photos 1-4 in **Figure 4-9** below.



Figure 4-9: Photos showing the general condition of the Creighton waste disposal site

The following measures aimed at ensuring compliance and improving the operational efficiency of the waste disposal site are recommended:

- The facility needs to be access controlled with security personnel 24/7.
- As Creighton is currently the only waste disposal site in NDZM, resources need to be channelled towards the operational maintenance of the facility. This includes creating a waste and separation area, and installing a weighbridge. Machinery such as Rear End Loaders and Compactors need to be readily available on a daily basis to move the waste in the open pits and compact it.
- The facility is not properly designed according to the Norms and Standards for waste disposal site. A suitably qualified and registered Civil Engineer should be appointed to design the facility and Stormwater Management Plan.
- The facility needs to be audited annually in terms of the WML conditions. Available records indicate the last external audit was conducted in August 2025, and internal audits are conducted quarterly. None of the recommendations made in the audit have been implemented. Monitoring in terms of the WML conditions needs to be implemented to ensure compliance.

4.4.2 Status Quo of Waste Recyclers

4.4.2.1 Bazamile Recycling and General Co-operative

Waste recycling activity is taking place at Himeville Transfer Station. This duty was outsourced by the NDZM and is being driven by a Small, Medium, and Micro Enterprise (SMME), Bazamile Recycling Cooperative (BRC). BRC was established in 2012 by a group of 5 women residing in Himeville. Over the years it has grown, and currently employs more than 10 workers from the surrounding community; a majority of these are women and youth. Out of the 10 people appointed by Bazamile, eight of the

employees are fall into the category of youth. In 2020, Bazamile co-operative was awarded R200 000 in a competition, and this amount wet towards purchasing of vehicle for the company.

A significant portion of the waste recovered by the BRC is generated by commercial sector, households (urban and peri-urban) and to a lesser degree from rural places.

The type of waste streams recovered mainly include:

- **White Paper:** Office/Worksheets/Envelopes/Till slips;
- **Mixed Paper:** Coloured/White paper with more than 70% colour;
- **Newspaper:** Non-glossy newspaper/Telephone directories;
- **Tetrapak:** All foil-lined cardboard food and drink cartons;
- **Polystyrene:** Polystyrene cups/Meat and vegetable trays;
- **Plastic:** Bottles/Food containers/Cleaning agent containers/Toiletry containers/Packaging/Plastic bags/Sandwich bags/Sweet packets/ Sweet packets with foil inner/ Yoghurt tubs/Blister packs;
- **Cans:** Soft drinks/ Alcohol cans/ Food tins/Pie pans/ Foil/ Food containers/ Aerosol cans/ Bottle tops/ Jar lids;
- **Glass:** All beverage bottles and food jars;
- **Magazines:** Glossy print/Leaflets/Flyers;
- **Cardboard:** Cereal boxes/Tissue boxes/Clothing tags/Egg cartons/Toilet paper inners/Boxes/Cards/Brown paper; and
- **Sachets:** Soup packets/Cook-In Sauces/Foil tea bags/Washing powder bags.

4.4.2.2 Creighton Waste Picker's Database

The NDZM has a database of registered waste pickers dating as far back as 2019, and it is currently being updated regularly every year. As of 2022, there were forty-seven waste pickers that had come voluntarily to register under municipal database.

The waste pickers play active role in the management of waste within the NDZM. They reduce the amount of waste disposed in landfills which in turn reduces the demand for more land to be utilized as landfills. In return, they get an income thereby reducing poverty as many households survive with social grants, for them to recycle waste there will be alternate source of income.

The NDZM Waste Management Unit regularly conducts workshops with waste pickers to assist them in expanding their source of income and different ways to access the market. Waste pickers are encouraged to register companies so that there can be exposed to funding opportunities. The NDZM is willing to assist more waste pickers on formalizing their work as they assist us in minimizing the amount of waste disposed in Creighton waste disposal Site. With assistance from the EDTEA, there has been a number of workshops for the recyclers aimed at building capacity and also contributing to the green economy. The EDTEA also provides funding to informal, community owned recycling enterprises such as Z Zulu Recycling, which operates a buy-back enterprise specialising in the collection and purchasing of post-consumer waste—such as Tetra Pak, glass, and bulk plastics (HDPE, LDPE, and PP). The enterprise also connects local grassroots collectors with commercial buyers.

4.4.3 Status Quo of other types of Facilities

4.4.3.1 Himeville Waste Transfer Station

The Himeville Waste Transfer Station is utilised as a waste separation and classification centre where waste is disposed from different sources and classified for recycling activities. The registration of the Himeville Waste Transfer Station was submitted in terms of Section 5 of the National Norms and Standards for the Storage of Waste, 2013. The facility is registered under reference KZN/waste/storage/058.

A site inspection of the Himeville Waste Transfer station was conducted on the 12th of February 2025 (see Photos 1-4 in **Figure 4-10**). It was observed during the site inspection that the facility was operating at an optimal level in terms of the *Norms and Standards are called National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening, Chipping or Baling of General Waste, 2017*. The facility needs to improve on the following:

- Access control - security measures need to be tightened in order to ensure all the waste entering the site is screened for any hazardous waste material. The site does not accept hazardous waste. In addition, the site needs to be fully fenced to prevent unauthorised entry.
- General housekeeping – ensure all other waste streams on site are kept in suitable waste receptacles such as storage containers in which the waste can be compacted prior to collection.
- Safety – ensure flammable waste such as garden waste is stored in waste skips or storage containers to minimise any potential fire risks. Since the site is currently not permitted to treat organic waste, it can be shredded and sold to registered composting facilities.



Figure 4-10: Photos of the Himeville Waste Transfer station taken during the site inspection on 12 February 2025

Investment in proper training and measuring equipment is necessary to ensure all recycled waste is recorded.

4.5 Status of Waste Collection Services

According to the DFFE Guideline, a list containing areas that receive a waste collection service and areas that do not receive waste services should be developed (DFFE, 2009). The NDZM has an up-to-date indigent register and its waste management unit caters for indigent households. In addition, NDZM is required to develop a plan on how it will roll out waste collection services in the different settlement types. The total number of Households currently with access to refuse removal services is 1326, households with free access to basic services are 28, as indicated in **Table 4-10**.

Table 4-10: Number of households with access to refuse removals in terms of the NDWCS⁶ (NDZM, 2025)

Item	Total number
Households	
Serviced households	1326
Unserviced households	
Indigent households	28
Unserviced indigent households	
Service Level A: On-site appropriate and regularly supervised disposal	
Service Level B: Community transfer to central collection point:	
Service Level C: Organised transfer to central collection points and/or kerbside collection:	
Service Level D: Mixture of Service Level B and Service Level C:	
Total Serviced households as per the National Domestic Waste Collection Standards:	

4.5.1 Collection needs

Currently, the only waste disposal site within the NDZM is at Creighton which is approximately 64 km apart from the Himeville Waste Transfer facility. Refuse trucks from Bulwer also have to travel approximately 46 km to the waste disposal site. The commissioning of the proposed new Bulwer landfill site will improve collection of waste in all the surrounding areas near Bulwer.

4.5.2 Mainstreaming key principles of the NWMS

The DFFE Guideline emphasises the importance of waste prevention and minimisation to prevent products and materials from being discarded. This waste management option is important for municipalities as it reduces costs associated with managing waste. This section focuses on the identification of existing waste minimisation and prevention initiatives. The NDZM currently does not have initiatives aimed at waste minimisation and prevention. This IWMP has identified a few initiatives that the Municipality can explore and use in its publicity on waste minimisation and prevention.

In terms of socio-economic growth and development, the Himeville Waste Transfer facility currently employs ten (10) locals which are paid under the Expanded Public Works Programme (EPWP) stipend. The NDZM also anticipates to create more employment opportunities during the upgrade of the Creighton Waste Disposal site, and construction of the new Bulwer landfill site. Both waste disposal sites will also create employment opportunities during the operational phase.

⁶ National Domestic Waste Collection Standards

4.5.3 Waste Pickers Integration

This section focuses on identifying existing initiatives aimed at integrating the waste pickers in the municipality, the number of waste pickers operating in the municipality, the areas they operate in and also how they operate. The NDZM has a database of registered waste pickers dating as far back as 2019, and it is currently being updated regularly every year. As of 2022, there were forty-seven waste pickers that had come voluntarily to register under municipal database.

The waste pickers play active role in the management of waste within the NDZM. They reduce the amount of waste disposed in landfills which in turn reduces the demand for more land to be utilized as landfills. In return, they get an income thereby reducing poverty as many households survive with social grants, for them to recycle waste there will be alternate source of income

4.5.4 Circular waste economy

The DFFE Guideline requires the NDZM to identify the relevant actions of the circular economy for inclusion in the IWMP. This IWMP is aligned with the outcomes and key principles of the National Waste Management Strategy (WMS) 2020 and draft WMS 2026. The WMS recognises the growing demand for waste management services particularly in urban areas due to population growth (DFFE, 2020). It is therefore premised on three (3) pillars which will see a future South Africa with zero waste in landfills; cleaner communities, well managed and financially stable waste services, and a culture of zero tolerance of pollution, litter and illegal dumping (DFFE, 2025). The SA Government aims to achieve these priorities through the following three (3) supporting pillars:

- (i). Waste Minimisation;
- (ii). Effective and Sustainable Waste Services; and
- (iii). Compliance, Enforcement and Awareness.

The NWMS expects the following outcomes to be achieved through the effective and efficient implementation of the draft NWMS 2026 by all stakeholders from all sector of society:

- Prevent waste, and where waste cannot be prevented ensure – 40% of waste from diverted from landfill within 5 years; 55% within 10 years; and at least 70% within 15 years leading to Zero-Waste going to landfill;
- All South Africans live in clean communities with waste services that are well managed and financially sustainable; and
- Mainstreaming a culture of compliance resulting in zero tolerance of pollution, litter and illegal dumping;
- Promoting capacity building and raising awareness about waste management practices.

This aligns with the key principles underpinning the NWMS 2026, outlined and explained in **Table 4-11** below

Table 4-11: Key principles underpinning the draft WMS 2026 (DFFE, 2025)

PRINCIPLE	EXPLANATION
Waste Minimisation	This refers to avoiding the amount and toxicity of waste that is generated and, in the event that waste is generated, the reduction of the amount and toxicity of the waste that is disposed.
Waste Prevention	This refers to avoiding the generation of waste and avoiding toxicity in waste.
Waste as a Resource	This refers to beneficiating waste through re-use, recycling, treatment and recovery to reduce the amount and the toxicity of waste disposed of.
Sustainable Strategic Partnerships	This refers to government establishing and sustaining collaborative working relationships with non-government role-players involved in the management of waste, i.e. private sector, academia, civil society organisations and other development funding institutions.
Environmentally sound socio-economic growth and development	This refers to ensuring that the intent and commitments of the SDGs, NDP are continuously integrated and aligned to all environmental protection considerations, and that environmental protection programmes contribute to improving the socio-economic lives of people. Equity and Inclusion: "Ensure that all waste management interventions, including those funded through EPR schemes, address the needs of rural, peri-urban and traditional communities, and promote inclusive service delivery."

The central approach to achieving the above outcomes adopted by the NWMS 2020 is in promoting a circular economy which seeks to move away from a take-make-waste industrial model to one that decouples economic activity from the environment and supports a just transition to renewable energy sources. The NDZM IWMP 2026-2031 strives to contribute to the above outcomes and principles of a Circular Economy (CE) which provides the opportunity to develop re-use activities and create jobs locally.

4.6 Financing for Waste Management Services

4.6.1 Budget for 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 (DFFE, 2009). 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. The NDZM IWMP 5-year draft budget is summarised in **Table 4-12** below. The total amount for each year is indicated in **Table 4-13**. Both Tables are graphically represented in the Starck chart and Bar chart graph in **Figure 4-11** and **Figure 4-12** respectively.

Table 4-12: NDZM IWMP 5 Year Draft Budget Summary

Budget item	Year 1	Year 2	Year 3	Year 4	Year 5
Waste Management Infrastructure	R 3 532 500,00	R 1 840 000,00	R 5306 000,00	R 6 061 600,00	R 1 800 000,00
Waste Equipment and machinery	R 919 000,00	R 320 000,00	R 378 000,00	R 6 795 200,00	R 1 350 000,00

Waste data collection and management	R 3 000,00	R -	R -	R -	R -
Waste collection services	R 1 705 000,00	R 4 920 000,00	R 362 000,00	R 363 000,00	R 1 920 000,00
Waste separation	R 10 000,00	R120 000,00	R 312 000,00	R 337 200,00	R 236 000,00
Waste Legislation Enforcement	R -	R 245 000,00	R 269 500,00	R 296 450,00	R 245 000,00
Monitoring of the IWMP	R 92 000,00	R 60 000,00	R 66 000,00	R 72 600,00	R 660 000,00
Waste Classification, Characterisation, and Analyses	R -	R 95 000,00	R104 500,00	R114 950,00	R 95 000,00
Community Awareness and Education	R -	R 106 000,00	R 116 600,00	R 188 260,00	R 166 000,00
Regulatory Compliance	R 200 000,00	R 340 000,00	R 374 000,00	R 411 400,00	R 340 000,00

Table 4-13: NDZM IWMP 5-Year Draft Budget – Annual Summary

Budget summary	
Annual Budget	Estimate Total
Year 1	R 6 577 000,00
Year 2	R 8 106 000,00
Year 3	R 7 348 600,00
Year 4	R 14 640 660,00
Year 5	R 6 812 000,00

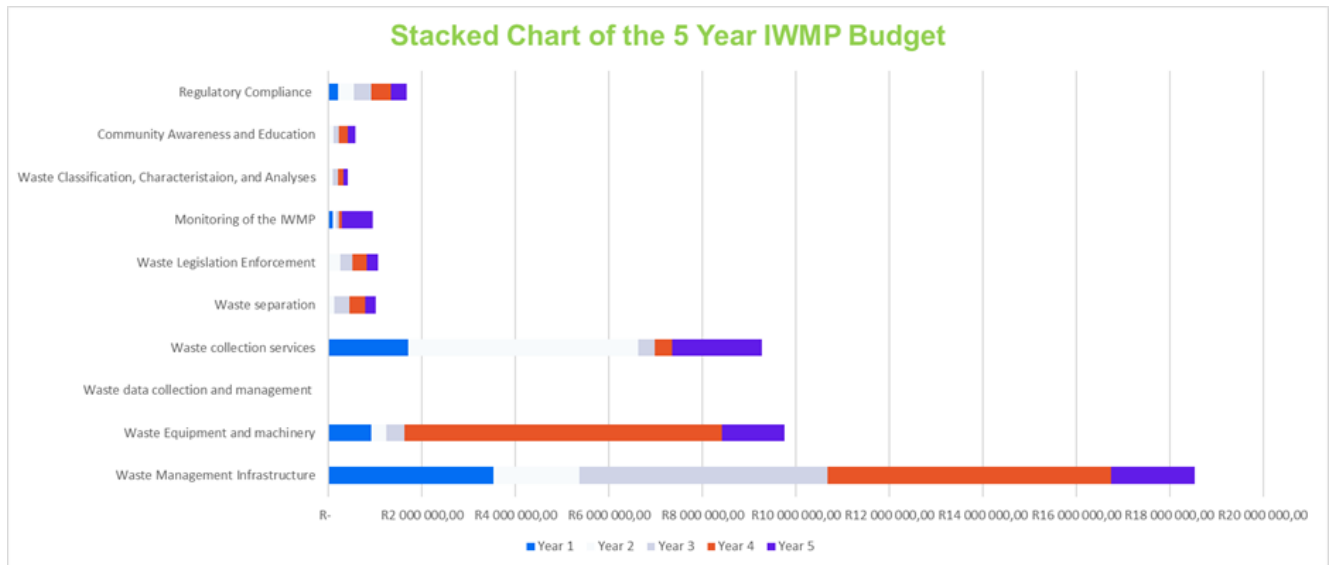


Figure 4-11: Stack chart of the draft IWMP budget

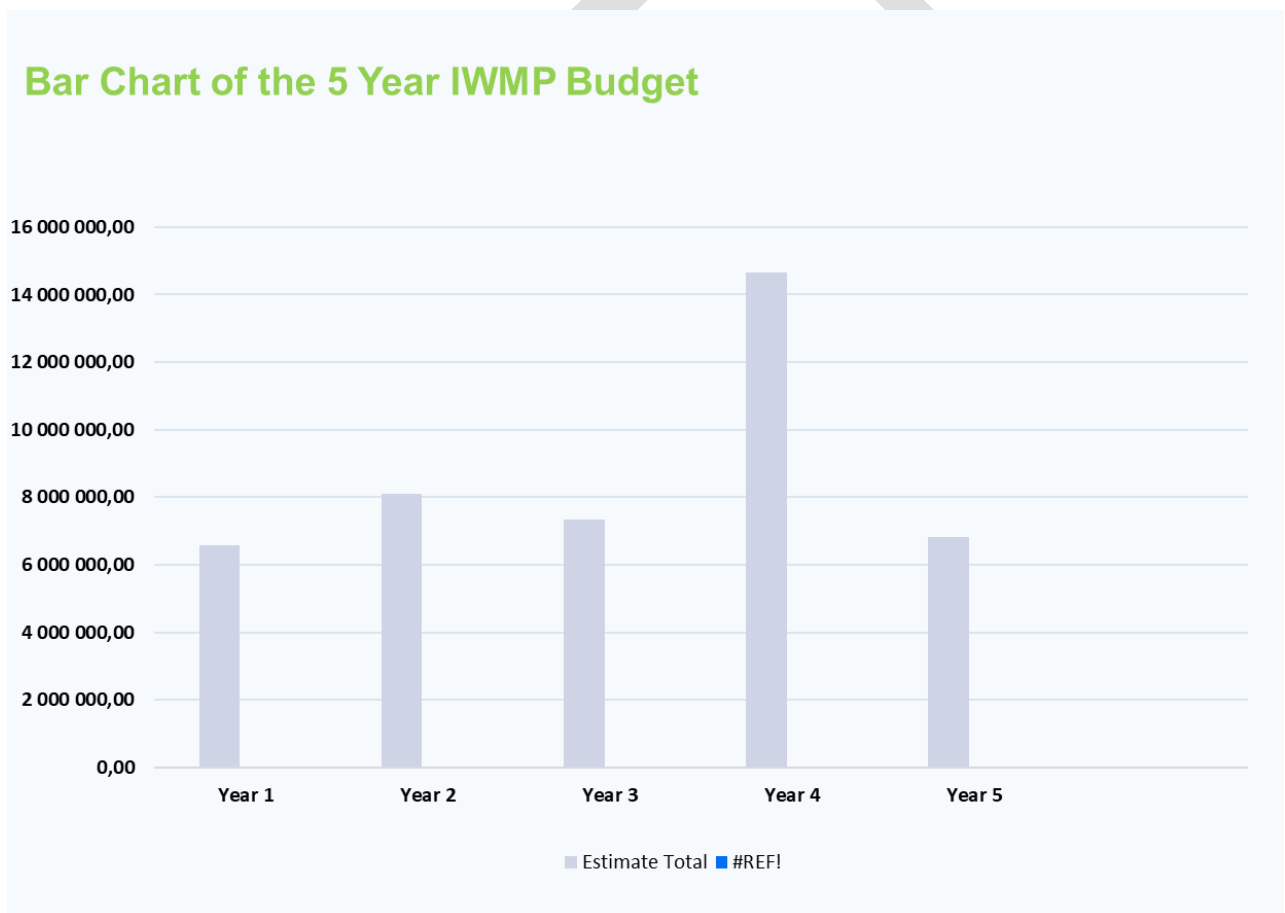


Figure 4-12: Bar Chart of the draft IWMP 5-Year Budget

4.6.2 Organisational and institutional matters

This section indicates the current organisational structure or organogram of the NDZM in order to determine the available human resources to deliver waste services. As indicated in **Figure 4-13**, the organogram highlights the number of available staff under each section such as staff to perform management duties, planning, waste collection, recycling and disposal, and enforcement. In addition, it

can 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 (DFFE, 2009).

DRAFT

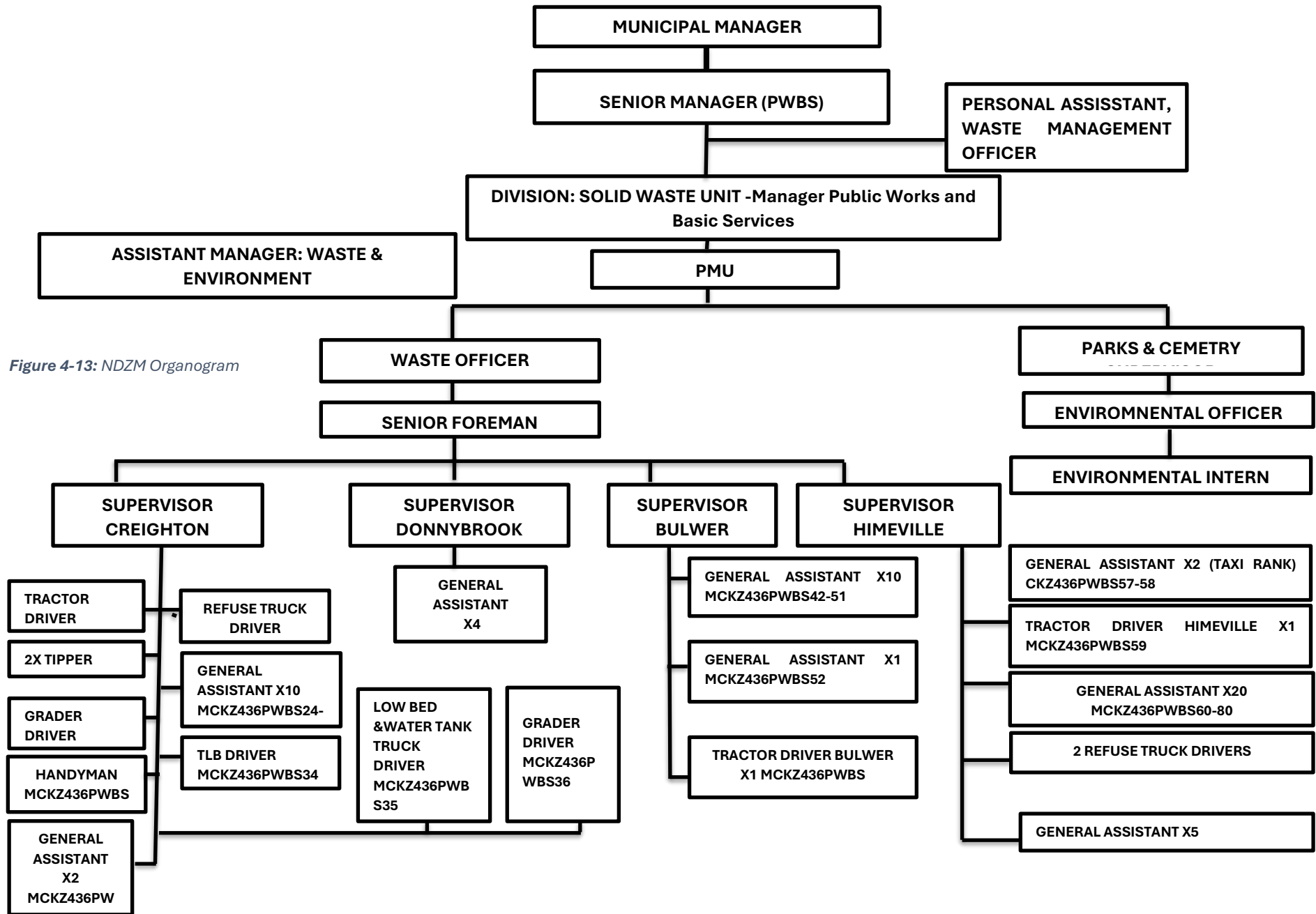


Figure 4-13: NDZM Organogram

5 GAPS AND NEEDS ASSESSMENT

The following gaps and needs were identified based on the situation analysis findings:

- a) No waste records or information for the volumes of waste diverted for recycling or disposed at the Creighton Waste disposal site.
- b) No records or information on the type of hazardous waste streams and volumes generated within the Municipal boundary.
- c) Information on the location and total number of illegal dumpsites was unavailable.
- d) No surveys were conducted to ascertain the total number of available and functional litter bins in all the major towns.
- e) No information was provided on existing waste equipment and machinery.
- f) No information was provided on the current and former waste budgets. The budget presented under Sub-section 4.6 above is therefore purely speculative and not based on market related costs.
- g) No waste surveys were conducted in other towns and rural areas within the municipal boundary.
- h) No interviews were conducted with municipal workers in the waste services department.
- i) The site observations made are based on a site visit conducted once-off and may not represent the current status quo.
- j) No multi-stakeholder engagement process was conducted in the formulation of the goals and strategies as well as the implementation plan.

This IWMP addresses some of the gaps and needs identified above.

6 DESIRED END STATE

The desired end state entails, according to the DFFE Guideline, identifying priorities and goals that a municipality wishes to attain with regards to waste management (DFFE, 2009). Strategic goals of the IWMP are developed using information collected on the historical and present waste management situation.

6.1 Strategic Goals, Targets, And Indicators

Strategic goals are developed to address the gaps and the needs of the community whilst addressing the NEM: WA requirements. A program on how these will be attained is developed as an implementation plan. The strategic goals must be set based on the relevant waste legislation, regulations and policies and should be guided by the waste management hierarchy and circular economy principles. The setting of goals, objectives and targets must also take into consideration the municipal response to the goals and targets set in the National Waste Management Strategy.

The NDZM strategic goals and implementation plan are based on the three strategic pillars of the NWMS – waste minimisation, effective and sustainable waste services and compliance, enforcement and awareness. As indicated in **Table 6-1**, each pillar has a specific focus area and key actions that must be implemented and monitored. The strategic objectives are divided into

- **Immediate:** 1 year;
- **Short-term:** 2 to 3 years; and
- **Medium to Long term:** 3 to 5 years.

Table 6-1: Strategic Goals, Objectives, Targets, and Implementation Plan

Goal	Objectives	Targets	Planned Activities for the years 2021-2026	2025 Review Findings	Targets	2026-2027	2027-2028	2028-2029	2029-2030	2031
Goal 1: Promote reduction, reuse, recycling and recovery of waste	Contribute towards the growth of the green economy	Encouraging the participation of SMMEs and cooperatives in waste service delivery and recycling	Provide land for companies to implement viable recycling projects	Bazamile Recycling Cooperative uses Municipal land for their activities.	Promoting the use of reusable and recyclable bags for shopping instead of the traditional single-use plastic bags (15% recyclable waste separation at source over 5 years)	Awareness campaigns on the advantages of reusable and recyclable shopping bags over the traditional single use bags	Implement pilot programs in partnerships with local businesses such as supermarkets and hardware	Tender for the design and upgrade of the Himeville Waste Transfer facility	Upgrade of the Himeville Waste Transfer facility	
			Implement a viable green project such as composting and generate revenue.	A wood chipper/shredder machine for garden waste was ordered to shred branches into biodegradable material that can be composted and sold to the local community and farmers. Currently, there is no compost site in NDZM	Establishment of buy-back centres and recycling facilities (Increase the number of buy-back centres and Material Recovery Facilities by 20% in strategically selected areas)	Establish 2 buy- back centres and 1 recycling facility	Tender for the design of the organic composting facility	Construction of the organic composting facility	Composting of organic waste	Composting of organic waste
			Support SMMEs and cooperatives in partnership with industries such as PETCO, MONDI, SAPPI, Hotels and Commercial Businesses	NDZM is working closely with SAPPI, for most of the projects.	Utilising a mix of municipal, private, or public-private partnership (PPP) services, including formal, informal, and community-driven collection to ensure high coverage.	Continue to work with local businesses in finding ways to reduce waste, whilst promoting recycling	Strengthen public private partnership on waste recycling	Provide health and safety protective clothing waste reclaimers and informal	Recycle 40% of the waste received at Himeville Waste Transfer facility	Recycle 60% of the waste received at Himeville Waste Transfer facility
		Promote a greater participation of households in the waste separation at source programmes	Establish mechanisms for promoting separation at source.	No action plan, or mechanisms for promoting separation at source were established. The Integrated Waste Management By-Law, 2024 has no provisions for separation at source.	Implementing educational campaigns and encouraging the "7 R's" (Rethink, Refuse, Reduce, Reuse, Repair, Regift, Recycle) to minimise waste generation.	Awareness campaigns on waste minimisation, reuse, reduction, and recycling	Awareness campaigns on waste minimisation, reuse, reduction, and recycling	Provide suitable waste receptacles to households for waste separation	Provide suitable waste receptacles to households for waste separation	
			Conduct a feasibility study to determine whether there is needs to establish buy back centres.	No feasibility study was conducted.						
			Develop a composting strategy to divert garden waste to the transfer station and waste disposal sites.	No composting strategy was established.	Diversion of 10% of the organic waste collected to a composting facility	Develop a waste composting strategy for the municipality	Tender for the design of the organic composting facility	Construct an organic waste composting facility	Conduct awareness campaigns on the organic waste composting strategy	Conduct awareness campaigns on the organic waste composting strategy
Goal 2: Ensure the effective and efficient delivery of waste services	Ensure/Provide effective and efficient delivery of waste services to the community.	Rendering of waste removal services to communities (households)	Provide waste removal services in Bulwer, Donnybrook, Underberg/Himeville, Creighton.	Status achieved. The Stats SA results indicate the number of households receiving waste removal services has increased.	Maintenance and servicing of waste collection fleet	Conduct service delivery evaluation of waste collection services to identify gaps	Purchase of additional waste collection trucks and equipment if required	Maintain consistent schedule for waste collection services	Maintain consistent schedule for waste collection services	Maintain consistent schedule for waste collection services
			Provide receptacles for household waste and CBD	No data on the number of receptacles provided to households.	Ensure all households in the major towns have receptacles	Conduct a data collection exercise on the total number of households with waste receptacles	Purchase waste receptacles for identified households with none	Continuously distribute waste collection receptacles to households as and when required	Continuously distribute waste collection receptacles to households as and when required	Continuously distribute waste collection receptacles to households as and when required
			Clear illegal dumping (schedule quarterly clean-up campaigns)	Achieved. No data on the number of illegal dumping sites cleared per financial year.	Clear illegal dumping (schedule quarterly clean-up campaigns)	Identify all illegal dump sites within the municipal boundary	Develop a strategy for the removal of all illegal dump sites	Conduct awareness campaigns against illegal dumping	Conduct awareness campaigns against illegal dumping	Conduct awareness campaigns against illegal dumping
			Adopt open spaces for clean-ups and preventing illegal dumping.	No open spaces adopted in the five-year period.	Collection of waste at all parks and green open spaces	Identify all parks and green open spaces within	Develop a strategy for the removal of	Implement strategy and conduct	Conduct campaigns against illegal	Conduct campaigns against illegal

DR NKOSAZANA DLAMINI-ZUMA LOCAL MUNICIPALITY DRAFT IWMP 2026-2031

						the municipal boundary for clean-ups	waste in all parks & green open spaces	awareness on keeping parks and open spaces clean	dumping on open spaces	dumping on open spaces
			Purchase of specialized vehicles to improve service delivery with future plans to expand to un-serviced areas.	Achieved. Number of specialised vehicles to be confirmed.	Improve waste collection services with gradual expansion in un-serviced areas.	Conduct a vehicle fleet evaluation exercise to confirm available fleet for waste collection services	Purchase additional waste collection services trucks and equipment if required	Ensure consistent waste collection services in serviced areas, with gradual expansion into un-serviced areas	Ensure consistent waste collection services in serviced areas, with gradual expansion into un-serviced areas	Ensure consistent waste collection services in serviced areas, with gradual expansion into un-serviced areas
			Purchase adequate drums, skip bins and equipment for the removal of waste from residential areas.	Achieved. Ratio of waste receptacles provided to households to be confirmed.	Add waste skips in densely populated areas such as townships and shopping centres	Compile an inventory of all waste drums, skips and bins, and identify with none	Purchase additional waste collection receptacles	Regular inspections and replacement of damaged waste collection receptacles	Regular inspections and replacement of damaged waste collection receptacles	Regular inspections and replacement of damaged waste collection receptacles
Goal 3: Ensure that legislative tools are developed to deliver on the Waste Act and other applicable legislation	To ensure compliance with municipal by-laws Ensure sufficient and appropriately skilled staff to meet waste management needs	Enforcement of Gazetted Municipal by-laws	Train staff to enforce by-laws	Still in progress – Training records to be provided.	Waste Management Officer (WMO) to compile training manual and schedule for the medium-term (2 years) and long-term (up to 2031)	Training manual and schedule to be approved for implementation. All workers in the waste services sector to be notified of the training dates.	WMO to provide training regularly to supporting staff on the enforcement of Waste Management By-laws			
		System for maintaining electronic records of enforcement actions	Review and promulgate waste management by-laws.	Achieved. Integrated Waste Management By-Law was gazetted in 2024.	Enforce by-laws and continuously evaluate compliance	Provide training on the by-laws	Provide training on the by-laws	Conduct community awareness on the by-laws	Conduct community awareness on the by-laws	Conduct community awareness on the by-laws
			Installation and maintenance of NO illegal dumping signage.	Installation of signages in progress with 10 already installed to date. An evaluation will be conducted annually to ascertain areas that require signage and maintenance of the installed signages.	Develop and implement strategy for public awareness	Develop a strategy for public awareness campaigns	Place notice boards prohibiting illegal dumping at all hot spot areas including parks and open spaces			
	Development of a waste information system	Procurement of a weighbridge	Development Terms of Reference for the procurement weighbridge for waste facilities	Achieved. Procurement of weighbridge for Creighton waste disposal site in progress.	Procure weighbridge for the Creighton waste disposal site	Tender for the procurement of the weighbridge	Installation of the weighbridge			
			Recording of waste quantities to SAWIS	Achieved. Awaiting records of the submission.	Recording to be done consistently and proof presented in the annual performance assessment reports.					
	Development and implementation of IWMP	Complete IWMP	Implementation and Enforcement of IWMP.	Achieved. Integrated Waste Management By-Laws gazetted in 2024.	Conduct Annual Performance Assessments	Conduct Annual Performance Assessment	Conduct Annual Performance Assessment	Conduct Annual Performance Assessment	Conduct Annual Performance Assessment	Annual Performance Assessment & Review of the IWMP
Goal 4: Sound budgeting and financing of waste management services	Ensure sound and sustainable budgeting and financing/ funding of waste infrastructure and management services	Participate in municipal budget.	Annual allocation of budget for waste management services	Achieved. Awaiting figures of the annual budget allocated each year.	Participate on municipal budget	Attend municipal budget planning meetings	Attend municipal budget planning meetings	Attend municipal budget planning meetings	Attend municipal budget planning meetings	Attend municipal budget planning meetings
	Source external funding	External funding	Apply for funding	Achieved. Awaiting records of external funding received.	Explore different sources of external funding	Identify and evaluate different sources of external funding	Apply for external funding from different sources			
			Apply for funding		Facilitate private-public partnerships					

DR NKOSAZANA DLAMINI-ZUMA LOCAL MUNICIPALITY DRAFT IWMP 2026-2031

	To ensure that residents and businesses are charged in a fair manner, according to the service they receive.	Tariff modelling for waste management services.	Implement tariffs for waste collection and disposal Implement tariffs for waste disposal by businesses and construction companies Review tariffs in accordance to the costs of rendering waste services	Achieved. Tariffs included in Integrated Waste Management By-Laws gazetted in 2024.	Develop a Tariff Policy Strategy as guided by the DFFE Implement cost-reflective tariffs	Compile a draft Tariff Policy Strategy in consultation with the DFFE				
Goal 5: Ensure the safe and proper disposal of waste	To provide the public with safe and accessible waste disposal facilities	Designs and Commissioning of a Landfill Site for the Municipality	Develop a feasibility study for the landfill within Dr Nkosazana Dlamini Zuma Municipality.	Achieved. New landfill site in Bulwer was granted a Waste Management Licence.	Approval of the landfill designs, tender, and commissioning	Engineering designs and approval Tendering and adjudication process	Upgrade and commissioning			
		Decommissioning and Rehabilitation of Bulwer Waste disposal site	Develop designs for the new landfill site Undertake an environmental impact assessment and waste management licence application for the new proposed landfill site. Undertake an Environmental Impact Assessment and Waste Management Licence application for closure of Bulwer Waste disposal site. Decommissioning and Rehabilitation as specified in the rehabilitation plan.							
Goal 6: Education and awareness	Initiation and implementation of community education and awareness campaign.	Annual programme of awareness campaigns.	Strengthen relationship and participation of all stakeholders.	Achieved. Awaiting records of awareness campaigns held to date.	Develop and implement strategy for public awareness. Improve participation in waste management planning by the public and other stakeholders	Develop strategy for public awareness campaigns, and draft annual programme	Conduct public awareness campaigns every quarter	Conduct public awareness campaigns every quarter	Conduct public awareness campaigns every quarter	Conduct public awareness campaigns every quarter
		Undertake a minimum of 4 clean-ups and awareness campaigns per year	Schedule clean-up and awareness campaign.	Achieved. Awaiting photos of clean-up campaigns held to date.	Increase residents' knowledge and awareness around the impacts of waste on human and environmental health	Conduct a clean-up every quarter in conjunction with awareness campaigns	Conduct a clean-up every quarter in conjunction with awareness campaigns	Conduct a clean-up every quarter in conjunction with awareness campaigns	Conduct a clean-up every quarter in conjunction with awareness campaigns	Conduct a clean-up every quarter in conjunction with awareness campaigns
Goal 7: Compliance and enforcement	Maintain and provide compliant waste disposal sites according to waste management licence/ norms and standards	Compliance with permit/norms and standards requirements for waste facilities	Auditing of the sites and Implement recommendations	Achieved. Last Annual Audit conducted in 2023.	Annual Performance Assessment of the IWMP	Develop Monitoring Framework which includes the institutional and organisational plan, communication and public participation plan, financial plan, and implementation programme.	Annual Performance Assessment Report	Annual Performance Assessment Report	Annual Performance Assessment Report	Annual Performance Assessment Report & Review of the IWMP
Goal 8: Ensure environmentally sound socio-economic growth and development	Contribute to SDGs through the circular economy	Ensure the IWMP is in line with the SDGs and NDP			Intents and commitments of the SDGs and NDP are incorporated in the Municipality's sustainability reporting	Identify and highlight waste management programmes that promote the transition to a circular economy in the municipality				
	Increase awareness on the potential impacts of climate-related disasters on waste management	Increment of 25% awareness over 4 years				Design and implement an awareness campaign for all sectors			Implement/ draw on early warning systems and disaster management protocol for waste-related infrastructure (stormwater blockages,	

									catchment monitoring, landfill leachate discharges)	
	Ensure climate proofing of all waste disposal facilities and waste infrastructure against major flood and disaster events	Ensure alignment of IWMP with Disaster Management Act and regulations				Develop guidelines for waste infrastructure climate proofing		Implement waste infrastructure climate proofing through capacity building programme		
	Ensure relevant national climate change mitigation and adaptation goals are integrated into waste management planning and practices					Establish a multi-stakeholder climate change and waste Think-Tank tasked with developing recommendations on mitigating the combined impacts of climate change and waste production				

DRAFT



7 IMPLEMENTATION PLAN

According to the IWMP, the NDZM faces a number of challenges in the implementation of its waste management projects, mainly capacity and financial resources (NDZM, 2022). The implementation programme is adjusted in accordance to the availability of funds.

Situation Analysis	Desired end state (Goals)	Targets	Y ⁷ 1	Y 2	Y 3	Y4	Y5	Selected alternatives	(Implementation mechanisms) Resources		
									Human Resource (HR)	Equipment (EQP)	Finance (HR+EQP)
Reporting on the South African Waste Information System (SAWIS) is being done using the estimation method	Ensure that legislative tools are developed to deliver on the Waste Act and other applicable legislation.	Reporting on SAWIS to be done continuously	x ⁸					Manual recording of waste quantities and SAWIS reporting.	Internal	Working tools such as laptops and access to internet.	
		Procurement of weigh bridge for Creighton waste disposal site.		X							

⁷ Y -Year

⁸ X - Achieved



DR NKOSAZANA DLAMINI-ZUMA LOCAL MUNICIPALITY DRAFT IWMP 2026-2031

No strategy to deal with garden refuse	Promote waste separation, recycling and recovery	Develop a composting strategy to divert garden waste to the transfer station and waste disposal sites. Identify land to be utilised for garden refuse Purchase industrial shredder to shred garden refuse	X X					Disposal of garden refuse in a landfill	Internal	Working tools such as laptops and access to internet.	
Reporting on the South African Waste Information System (SAWIS) is being done using the estimation method	Ensure that legislative tools are developed to deliver on the Waste Act and other applicable legislation.	Reporting on SAWIS to be done continuously Procurement of weigh bridge.	X					Manual recording of waste quantities and SAWIS reporting.	Internal	Working tools such as laptops and access to internet.	
Lack of - awareness of community about dangers of incorrect	Education and awareness	Annual programme of awareness campaign.		X				Awareness campaigns	Internal and external stakeholders	Pamphlets and brochures.	



disposal of waste		Undertake a minimum of 4 clean-ups and awareness campaigns per year	X	X			X				
Inadequate tariff modelling by private businesses for waste disposal in Himeville Transfer Station	Sound budgeting and financing of waste management services	Implement tariffs for waste disposal by private businesses and construction companies to generate revenue.		X				Full cost accounting	Internal and external stakeholder		
Insufficiency of waste collection service		Provide waste removal services in Bulwer, Donnybrook, Underberg/Himeville, Creighton.	X				X	Kerbside collection for recyclable waste. Increase collection points in communal areas	Existing staff and additional staff EPWPs.		
		Purchase of specialised vehicle to expand waste collection service.		X							
		Purchase adequate drums,									



		skip bins and equipment for the removal of waste from residential areas.									
No strategy to deal with garden refuse in Himeville Transfer Station	Promote waste separation, recycling and recovery	Purchase of industrial shredder to handle garden refuse Implement a viable green project such as composting and generate revenue		X					Establishment of an organic waste composting facility for green and food waste		
No proper designed landfill site for Dr Nkosazana Dlamini Municipality	Ensure the safe and proper disposal of waste	Appoint contractor for turnkey project - design, procurement, and construction of the Bulwer waste disposal site capping and closure. Obtain approvals from DEDET and DWS for the proposed new Bulwer landfill site.		X					Improve storage space of existing landfill sites by ensuring compaction. Increase capacity for the safe disposal of waste whilst implementing waste diversion measures. Prevent illegal dumping of waste at landfill sites		



		Appointment of contractor for turnkey project - design, procurement, and construction of the Bulwer landfill.	X	X	X	X	X				
Lack of enforcement of Waste management by-laws enforcement to address illegal dumping.	Compliance and enforcement	Capacitation of law enforcement and peace officers on waste management by-laws.	X	X	X	X	X	Continuous monitoring and enforcement. Awareness campaigns Signage and information boards at landfill sites	Internal and external (government departments and private sector)	Capacity building and training	
Lack of awareness on sustainable waste management and climate related disasters	Increase awareness on the potential impacts of unsustainable waste management practices including climate induced risks	Awareness campaign plans	X		X		X	Community awareness campaigns in targeted areas	Community awareness campaigns in targeted areas	Community awareness campaigns in targeted areas	Community awareness campaigns in targeted areas



8 IWMP CONSULTATION PROCESS

All the comments received during the public consultation process, and responses thereto, will be incorporated in the Table below.

Stakeholder	Issues raised/ Concerns	Municipality's response	General comments

8.1 Public consultation of the IWMP Review

This Draft IWMP will be made available for public review within a period of 30 days, and public information sessions will be held depending on the comments received. Copies of the draft IWMP will be made available at all the public libraries and municipal offices. A notice inviting interested and or affected parties to review the draft IWMP and provide comments (if any) will be published in the local newspaper (Kokstad Advertiser and Ilanga Newspaper). Notices in both English and isiZulu will also be placed at the public libraries and municipal offices. Parties wishing to comment or register will be provided the opportunity to do so within a regulated timeframe of 30 days from the date the notice or advert is published. All comments received during the public review period will be incorporated into the comments and responses report above.

9 MONITORING & REVIEW

The implementation of the IWMP will be monitored as part of the Annual Performance Assessment reports and will include all the information listed in paragraphs (a) to (j) of Subsection (2) insofar as it relates to the performance of the municipality:

- the extent to which the plan has been implemented during the period;
- the waste management initiatives that have been undertaken during the reporting period;
- the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable
- the level of compliance with the plan and any applicable waste management standards
- the measures taken to secure compliance with waste management standards
- the waste management monitoring activities
- the actual budget expended on implementing the plan;
- the measures that have been taken to make necessary amendments to the plan;



- i) in the case of a province, the extent to which municipalities comply with the plan and, in the event of any non-compliance with the plan, the reasons for such non-compliance; and
- j) any other requirements as may be prescribed by the Minister.

A framework by which the plan will be monitor

Strategic issues	Performance	Public Accountability
To provide a reliable weekly collection service in urban areas and to continuously expand waste collection services	The Municipality to publish a weekly collection schedule.	Public private partnership on waste collection services
-Management of waste information in a manner that makes it accessible and useful, and that complies with the Waste Information Regulations.	Procure weighbridges for the Creighton Waste disposal site and Himeville Waste Transfer facility.	Manual recording of waste volumes in the absence of weighbridge.
Raise public awareness of the waste management by-laws, to enforce them appropriately and thereby reduce illegal dumping within the Municipality.	Enforcement plan and system for maintaining electronic records of enforcement actions.	Promote waste management awareness and branding. -Installation of electronic branding for raising awareness
Development and implementation of IWMP.	IWMP as a legislative document for waste management	Waste management policy
To ensure that residents and businesses are charged in a fair manner, according to the service they receive.	Tariff modelling for waste management services. -Budgeting for waste management services. Source funding. MFMA compliance.	Public private partnership on waste management services. -Ensure assessment and allocation of budget for waste management services (internal funding).
To provide the public with an accessible waste management disposal services.	Construction of a Licensed waste disposal facility. -Increased quantity of bins in town and frequency of collection -Compile operational plans for all the waste facilities -Waste site operators	Controlled waste disposal facility in compliance Section 16 of NEM:WA (duty of care).
To ensure a programme of ongoing waste awareness campaigns and capacity building in Dr Nkosazana Dlamini Zuma Municipality	Annual programme of awareness campaigns. -1 clean up and awareness campaign per quarter. -1 capacity building annually. -Reduced illegal dumping.	Installation of electronic branding for raising awareness. Public private partnership on waste management services. Promote waste management awareness and branding.



A Better Place for All

DR NKOSAZANA DLAMINI-ZUMA LOCAL MUNICIPALITY DRAFT IWMP 2026-2031

To ensure enforcement of by-laws to reduce illegal dumping in the GKM area.		
---	--	--

DRAFT

10 ANNUAL PERFORMANCE REPORTS

Annual Performance Reports as required in terms Section 13 of the National Environmental Management Waste Act prepared in terms of section 46 of the Municipal Systems Act and must contain information on the implementation of the municipal IWMP, including the information set out in paragraph (a) to (j) of subsection (2) in so far as it relates to the performance of the municipality.

The latest Annual Performance Report 2022/2023 only has two key performance indicators (PWBS 14 & 15), as summarised in the Table below.

Table 10-1: 2022/2023 Annual Performance Reports solid waste management indicators (NDZM, 2023)

Strategic Objective	Key performance indicator	2022/2023 Annual Target	2022/23 Annual Actual Performance	Reasons for variances	Corrective measures
To improve access to solid waste management services by 30 June 2026	Number of households with access to solid waste removal	1395	Target not achieved, 1216 of households with access to solid waste removal	The difference of 179 is as a result of the rentals and business customers that are not included in the billing register	Management is going to ensure improvements on the review of this target by separating customers according to their categories in future
To improve access to solid waste management services by 30 June 2026	Number of indigent households with access to free waste removal	29	Target achieved, 29 indigent households with access to free waste removal	N/A	N/A

As indicated in the Table above, only two (2) performance indicators out of eighteen (18) were included in the Annual Performance Report. No improvement to access in solid waste removal services for households and indigent households was recorded.

The NDZM 2023/2024 IDP identified the following weaknesses and threats with regards to waste management in the municipal areas

Table 10-2: Weaknesses and threats to waste management in NDZM (NDZM, 2023)

Weaknesses	Threats
Inadequate resources such as waste refuse trucks and skip bins	Unstable waste collection
Lack of development and maintenance of landfill sites	Increase in health and environmental hazards
Insufficient human resource	Compromised Service Delivery
Lack of recycling initiatives (Environmental education)	Illegal dumping

The IDP proposes the following action plan for the threats and weaknesses identified in the Table above:

- Review of municipal waste management by-law (*reviewed and promulgated*);
- Procurement of skip loader truck and skip bins (*procured*);
- Input posts on review of organogram (*most posts filled*);

- To submit for endorsement and implement an integrated waste management plan (*in progress*);
- To conduct feasibility study and Environmental Impact Assessment on suitable land for landfill site (*process completed*);
- Continuous awareness campaigns on waste management to all wards (*in progress*);
- Source funding for the implementation of environmental management plan (*in progress*);
- Implementation of environmental education programmes (Targeting schools and communities) (*in progress*); and
- Eradication of alien plants in partnership with the DFFE (*in progress*).

In terms of waste collection services, the IDP indicates a formal municipal refuse removal service to every single household is not practical due to the rural nature of settlements, topography and road infrastructure in the municipality. Therefore, the majority of the population with access to refuse removal services are those situated within the urban centres i.e. Underberg/Himeville, Creighton, Bulwer and Donnybrook. Residents of rural settlements do not have access to such basic service. The total number of Households currently with access to refuse removal services is 4456 including households with free access to basic service.

The IDP further highlights the future plans of the NDZM in terms of waste management include:

- Construction of a landfill in Bulwer;
- Registration of a Transfer Station in Bulwer (Recycling facility);
- Alien species eradication which will be done guided by the eradication plan;
- Implementation of new tariffs for Himeville Transfer station in order to generate revenue;
- Installation of boreholes in Creighton Waste facility for ground water monitoring;
- Separation at source process, one ward selected as a pilot.

11 CONCLUSION

The NDZM IWMP 2026-2031 was compiled following the review of the first generation IWMP (2021 – 2026), which was conducted in line with the annual performance report requirements under Section 13 of the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008). The main objective for reviewing the IWMP was to assess its performance in terms of implementation over the five-year period (2021-2026). An IWMP is to be reviewed every five years in line with the IDP requirements. Apart from reviewing the IWMP every five years, the annual performance reports also act as a reviewing mechanism in which the municipality is able to evaluate its progress and take steps in ensuring that it does not lag behind in reaching the goals and targets set out in the implementation plan.

The NDZM Annual Performance Reports for the year 2021-2025 did not take into account the performance objectives, indicators, and plans in the NDZM IWMP 2021 – 2026. Both Annual Performance Reports provide data for only two performance indicators:

- Number of households with access to solid waste removal; and
- Number of indigent households with access to free waste removal.

The results of these two performance indicators show there was no improvement to access in solid waste removal services for households and indigent households. This is attributed to a number of issues including inadequate waste infrastructure and equipment, and inaccessible areas due to poor roads and terrain particularly in remote areas. The lack of adequate performance data in the annual performance reports is identified as one of the major constraints in the effective review of the first generation IWMP. It also points out to a number of limiting factors identified in the effective implementation of the IWMP.

Some of the major limiting factors identified include:

- Inadequate human resources capacity. The appointment of a Waste Management Officer (WMO) responsible for co-ordinating matters pertaining to waste management in the Municipality is

required in terms of Section 10(3) of the NEM: WA. The WMO was only appointed recently in March. In addition, each waste disposal site requires a waste officer responsible for recording all the waste streams coming and going out of the site.

- Limited or no budget for the implementation plan thereby compromising the roll-out of critical waste infrastructure, and compliance with waste management licence conditions/ norms and standards or any other legislative requirements.
- Lack of a municipal waste information system. There was no recording or collection of waste information at any of the waste disposal or transfer sites in the review period 2021-2026. Recording started recently in 2026.
- Inadequate oversight and management of existing waste management facilities.
- Inadequate infrastructure and equipment at all the waste management facilities.
- Lack of capacity building or training in waste management including enforcement of the waste management by-laws, and compliance with the latest norms and standards or legislative requirements.

Despite these challenges, the NDZM has made significant progress in the implementation of the NDZM IWMP 2021 – 2026, and notable achievements to date include:

- The gazetting of the Integrated Waste Management By-laws, 2024;
- Appointment of a Waste Management Officer (WMO);
- The licencing and registration of all the waste disposal sites including the Himeville Waste transfer facility;
- The continued separation, sorting and recycling of waste at the Himeville Waste transfer facility thereby diverting recyclable waste away from landfill sites;
- Partnerships with key stakeholders such as Petco and SAPPI in creating awareness and promoting recycling;
- The effective collection and removal of waste from households; and
- Purchase and installation of a weighbridge at the Himeville Waste transfer facility

This second generation IWMP (2026-2031) addresses all the challenges highlighted above, and was compiled in alignment with the strategic goals and objectives of the provincial IWMP. The draft WMS provides the framework of the IWMP and is predicated on the insight that while waste is an environmental concern, it is also an important sector in which technology and innovation have a crucial role to play in creating a secondary resources economy. It recognises the strategic entry points to waste minimisation and the circular economy is waste prevention and waste as a resource. Waste prevention emphasises avoiding and reducing waste before substances, materials and products are discarded i.e. before they become waste through a focus on the design and packaging of products and cleaner production. This IWMP promotes strategic partnerships between the NDZM and local businesses aimed at waste prevention. One particular waste stream identified is to reduce the use of single-use packaging such as plastic bags in shops. In terms of waste as a resource, the NDZM is already diverting recyclable waste from landfills through the separation of recyclable waste at the Himeville Waste Transfer station. Opportunities exist to strengthen the value chain of recyclables within the Municipality and the composting of organic garden waste is one such example.

11.1 Recommendations

The following actions are recommended based on the above conclusion.

1. Monitoring Plan and Review

The NDZM is required to develop a framework by which the IWMP will be monitored. The framework should identify the tasks/ targets and roles and responsibilities in order to ensure implementation. This could comprise the following:

- **Strategic issues:** delivery on the goals and objectives; measuring delivery with regards to attaining the short-medium- and long-term goals and objectives.
- **Performance:** how the municipality is doing in relation to the implementation of the entire IWMP including financial matters?
- **Public accountability:** Are the stakeholders kept abreast on the development of the plan? (Has there been awareness on the IWMP, awareness campaigns, information transfer and public participation?).

The above framework will result in the formulation of an institutional and organisational plan that is intended to guide institutional transformation and re-organisation of support structures for carrying out the IWMP and delivering on the waste management strategic objectives. This plan, according to the DFFE, should include the following:

- Make provision for human resource development, and the additional staff required.
- The communication and public participation plan should detail the communication and public participation process to ensure that the necessary arrangements are in place for stakeholders to be informed about progress and to feedback into the process for the implementation of the IWMP.
- The financial plan should reflect the waste management priorities identified in the development of the IWMP. The annual budget should be based on the medium-term financial and institutional plans in order to direct and manage resources in a focused way, to achieve the goals of the planning process. A plan for raising the revenue to support the implementation should be developed.
- The waste management implementation programme should detail the activities to be undertaken, delivery targets and delivery milestones. It will also provide information on project management, responsibilities of officials responsible for the implementation of the IWMP and schedules for project implementation.

2. Waste Management Officer

A Waste Management Officer (WMO) is responsible for regulating, controlling, managing and enforcing the provisions of the Integrated Waste Management By-law as well as all national and provincial legislation relating to waste management. The roles and responsibilities of a WMO include but not limited to the following:

- Establishes standards required at a local level for the monitoring and control of a clean and healthy livelihood and environment;
- Perform general duties in respect of waste management to ensure good governance and compliance;
- Co- ordinate and control with the service delivery objectives and outcomes associated with the collection and disposal of solid waste;
- Monitor and control the storage and transportation of waste;
- Creates a framework by which the IWMP will be monitored, and regularly updated in line with the legislative changes and requirements
- Oversee and monitor the quality and performance of waste services, including contract management of external providers ·
- Participate in the delivery of awareness and educational programmes on waste management approaches
- Create mechanisms for the effective implementation and enforcement of the Integrated Waste Management By-Law;
- Prepares and submits waste management plans for approval to inform strategic for waste collection, disposal, minimization and recycling ·
- Co-ordinate specific administrative and reporting requirements associated with the key performance and results indicators of the functionality ·

The NDZM recently appointed a WMO. In addition to the above roles and responsibilities, the appointed WMO is required to act as a point of contact between other departments from a provincial level on waste management issues. This includes the development and implementation of IWMPs which will assist NDZM in obtaining any information pertaining to the implementation of its IWMP i.e. reporting on NDZM's progress with regards to reaching its targets as per the IWMP, as well as ensuring that NDZM includes IWMP reporting in the annual performance reports as called for by the Municipal Systems Act.

3. Waste Information system

The NDZM needs to create a Waste Information System based on the national system created by the then Department of Environmental Affairs (now DFFE). The system is designed to capture data on waste generation, recycling, and disposal. In terms of the national system, municipalities are required to submit monthly waste reports on the waste quantities disposed of and diverted from waste disposal facilities via the Integrated Pollutant and Waste Information System (IPWIS). The NDZM WIS will therefore easily feed into the national system and IWMP monitoring.

4. Annual Performance Assessment Reports

Section 13 (3) of the NEM:WA requires that annual performance reports prepared in terms of Section 46 of the Municipal Systems Act must contain information on the implementation of the IWMP, including the following information in paragraphs (a) to (j) of Subsection (2) insofar as it relates to the performance of the municipality:

- k) the extent to which the plan has been implemented during the period;
- l) the waste management initiatives that have been undertaken during the reporting period;
- m) the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable
- n) the level of compliance with the plan and any applicable waste management standards
- o) the measures taken to secure compliance with waste management standards
- p) the waste management monitoring activities
- q) the actual budget expended on implementing the plan;
- r) the measures that have been taken to make necessary amendments to the plan;
- s) in the case of a province, the extent to which municipalities comply with the plan and, in the event of any non-compliance with the plan, the reasons for such non-compliance; and
- t) any other requirements as may be prescribed by the Minister.

The NDZM Annual Performance Assessments Reports for the period 2021 – 2025 only indicate the waste management initiatives that have been undertaken during the reporting period and the rest of the information listed above as required Section 13 of the NEM:WA was not included. It is recommended subsequent Annual Performance Assessment Reports should capture all the required information.

5. General Waste Management

The Waste Characterisation results for the Himeville Waste Transfer station conducted by the DFFE in January 2026, indicate waste containing textile was identified as the highest followed by PET bottle/containers, and HDPE material. During the exercise unwanted waste such as medical waste from KZN Wildlife was found in the analysed samples. In comparison to the 2019 results, plastic waste was categorised as the highest (33%) followed by Glass (26%), and organic waste (18%).

Both the 2019 and 2026 results show that a significant proportion of the general waste generated within the NDZM is recyclable. Organic waste, as well as Clothing and Textiles, are identified as priority waste streams in the draft WMS which require management measures to be put in place in the next 5 years. According to the draft WMS, these waste streams should therefore be prioritised for waste prevention and diversion from landfill. One of the recommended diversion strategies for organic waste is composting and

Waste to Energy projects such as Biogas production, bio-refinery technologies, and the conversion of residual waste into energy

All the garden waste received at the Himeville Transfer station must be stockpiled separately. The amount of organic waste received per day should be recorded as this will determine the extent of the required organic waste composting site. A suitable site should be selected for the disposal, processing, and composting of organic waste (garden and food waste). The organic waste composting facility will have to be designed, constructed, and operated according to the National Norms and Standards for organic waste composting, published in Government Notice No.561 of 25 June 2021.

The Creighton Waste Disposal site is currently the only operational waste disposal site for general waste in the NDZM. This is approximately 64 km away from the Himeville Waste Transfer station compared to 44 km to Bulwer. In addition, the waste disposal site has a limited storage capacity and is expected to reach full capacity within the next 2 years. The construction of the new proposed Bulwer landfill site is therefore of critical importance considering the limited capacity at the Creighton Waste disposal site, and the waste transportation costs.

6. Hazardous Waste Management

Hazardous waste is identified as a priority waste stream in the draft WMS. It is considered a priority not only in terms of volume, but also in terms of toxicity and the environmental risks associated with its treatment and disposal. Asbestos, oils, mercury, lead, Health Care Risk Waste (HCRW) and persistent organic pollutants (POPs) are listed as of special concern in relation to toxicity and environmental risks. The draft WMS indicates South Africa generated almost 67 million tonnes of hazardous waste in 2017 and over 93% of that was landfilled. Waste prevention is therefore recommended as a priority in relation to hazardous waste, both in terms of amount and toxicity of waste that is disposed to landfill.

The NDZM does not collect, or allow the storage and disposal of hazardous waste at all its waste management sites. Any hazardous waste brought inadvertently mixed with general waste, including any other hazardous waste within the NDZM, is safely separated and stored in enclosed containers for transportation by a contracted waste service provider to a licenced hazardous waste landfill in Durban. The Health Care Risk Waste (HCRW) suspected to be from the wildlife veterinary services must not be allowed to enter any of the Waste Management sites within the NDZM. The generators of HCRW must ensure it is separated, handled, stored, transported, treated, and disposed according to the requirements of the NEM: WA and the National Health Act 61 of 2003.

It is highly recommended that the NDZM creates a database of all hazardous waste generators within the Municipality. All the identified hazardous waste generators should be mandated within the confines of the By-laws to compile a Waste Management Plan for all the hazardous waste streams generated in their operations. The WMP must include Material Safety Data Sheets for each hazardous waste prepared in accordance with SANS 10234. The WMP should be submitted to the NDZM for approval.

7. Integrated Development Plan

The NDZM is required in terms of NEM:WA to integrate this IWMP into the Integrated Development Plan in order to ensure that waste management services are streamlined with other essential; basic services such as water and sanitation, housing, and electricity provision. The Draft NDZM IDP 2025/2026 identified insufficient measures towards recycling of waste as one of its key challenges in unlocking opportunities in the waste management sector. In response to this, the NDZM proposes to explore waste management projects for job creation and revenue enhancement. This in alignment with the strategic goals and implementation plan of the IWMP.

The Draft NDZM IDP 2025/2026 has also identified the following weaknesses and threats to achieving its goals in waste management:

- Insufficient human resource e.g. waste management officer and waste disposal sites personnel;

- No enforcement of waste by-law;
- No Landfill;
- Outsourcing of waste collection service;
- Illegal dumping;
- Budget constraints; and
- Inefficient waste collection.

In order to address the above weaknesses, the IDP proposes the following action plan:

- Proper budgeting for Waste and Environmental Management;
- To review and implement an integrated waste management plan;
- Continuous awareness campaigns on waste management to all wards;
- Appoint service provider to conduct quarterly inspections, maintenance, verification and calibration of all weighbridges; and
- Organic Waste Composting site.

The IWMP is in alignment with the above action plan.

12 REFERENCES

- DFFE. (2009). *Guideline for the development of Integrated Waste Management Plans (IWMP's)*. Pretoria: Department of Forestry, Fisheries, and the Environment.
- DFFE. (2020). *National Waste Management Strategy 2020*. Pretoria: Department of Forestry, Fisheries, and the Environment (DFFE).
- DFFE. (2025). *Draft National Waste Management Strategy 2026*. Pretoria: Department of Forestry Fisheries and the Environment.
- DFFE-IWMP. (2025, March 12). *Integrated Waste Management Plan Tool Kit*. Retrieved from IWMP Tool Kit: <http://iwmp.environment.gov.za/home>
- HGDM. (2020). *Draft Integrated Waste Management Plan for Harry Gwala District Municipality*. Creighton: Harry Gwala District Municipality.
- INR. (2022). *Inception Report: Development of the KwaZulu-Natal Integrated Waste Management Plan*. Pietermaritzburg: Institute of Natural Resources NPC.
- KZN DEDET. (2025). *1st Generation Integrated Waste Management Plan*. Pietermaritzburg: Kwazulu-Natal Department of Economic Development, Tourism and Environmental Affairs.
- NDZM. (2022). *Integrated Waste Management Plan (IWMP) Five Year Plan 2021-2026*. Creighton: Dr Nkosazana Dlamini Zuma Local Municipality.
- NDZM. (2023). *Dr. Nkosazana Dlamini Zuma Local Municipality Annual Report for 2022/23 Financial Year*. Creighton: Dr. Nkosazana Dlamini Zuma Local Municipality.
- NDZM. (2023). *Final 2023/24 Integrated Development Plan (IDP)*. Creighton: Dr Nkosazana Dlamini Zuma Local Municipality - KZN 436.
- NDZM. (2025). *Dr. Nkosazana Dlamini Zuma Local Municipal Report for 2024/25 Financial Year*. Creighton: Dr. Nkosazana Dlamini Zuma Local Municipality.
- NDZM. (2025). *Draft 2025/26 Integrated Development Plan*. Creighton: Dr Nkosazana Dlamini-Zuma Local Municipality.
- Stats SA. (2018). *Provincial profile: KwaZulu-Natal Community Survey 2016*. Pretoria: Statistics South Africa.
- Stats SA. (2022). *Statistics South Africa*. Retrieved from 2022 Census. Statssa: <https://census.statssa.gov.za/#/province/5/2>
- Stats SA. (2024). *Census 2022 Provincial Profile: KwaZulu-Natal/ Statistics South Africa*. Pretoria: Statistics South Africa.