

George Local Municipality



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**George Local Municipality**  
**Integrated Waste Management Plan**  
**3<sup>rd</sup> Generation**  
**2020 - 2025**

**FINAL**

GE38216

*March 2020*

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# George Local Municipality Integrated Waste Management Plan

## FINAL

### CONTENTS

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Chapter	Description	Page
	<b>Contact Information</b>	<b>iv</b>
	<b>Revision Status</b>	<b>iv</b>
	<b>Distribution List</b>	<b>v</b>
	<b>Abbreviations / Acronyms / Definitions</b>	<b>v</b>
	<b>Appendices</b>	<b>vi</b>
	<b>List of Figures</b>	<b>vi</b>
	<b>List of Tables</b>	<b>viii</b>
<b>1</b>	<b>Introduction</b>	<b>1</b>
	1.1 Definition of Waste	1
	1.2 Contents of an IWMP	2
	1.3 History of Integrated Waste Management Plans in the George Local Municipality	3
	1.4 Objectives of an Integrated Waste Management Plan	4
	1.5 Integrated Waste Management Plan Development Process	4
	1.6 Scope of the Integrated Waste Management Plan	6
	1.7 Context of Roles and Responsibilities	8
	1.8 Alignment with other Strategic Plans	9
<b>2</b>	<b>Approach and Methodology</b>	<b>15</b>
	2.1 Legislated Requirements for Integrated Waste Management Plans	15
	2.2 Methodology	15
	2.3 Assumptions and Limitations	18
<b>3</b>	<b>Legal Requirements Overview</b>	<b>19</b>

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3.1	South African Legislation	19
3.2	International Legislation	20
3.3	Key Changes to Legislation Since 2014	21
<b>4</b>	<b>Waste Management Performance Review</b>	<b>20</b>
4.1	Implementation of 2014 Integrated Waste Management Plan	20
4.2	Progress towards Compliance with National Waste Management Strategy Goals	26
<b>5</b>	<b>Receiving Environment</b>	<b>28</b>
5.1	Biodiversity	29
5.2	Water Resources	31
<b>6</b>	<b>Situation Analysis</b>	<b>32</b>
6.1	Scope and Purpose of the Situation Analysis	32
6.2	Overview of George Municipal Area	33
6.3	Demographics	34
6.4	Type of Housing and Access to Services	35
6.5	Local Economy	36
6.6	Waste Profile	37
6.7	Waste Generation	40
6.8	Future Waste Generation	45
6.9	Waste Information Systems	46
6.10	Future Residential Developments	47
6.11	Health Care Risk Waste	48
6.12	Waste Services	49
6.13	Waste Recycling	53
6.14	Management of Hazardous Waste	55
6.15	Organic Waste Management	56
6.16	Waste Management Facilities	57
6.17	Other Waste Management Services	68

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6.18	Complaints	73
6.19	Waste Management Fleet	74
6.20	Waste Management By-Laws	75
6.21	Institutional Management	76
6.22	Financial Management	81
6.23	Institutional Framework	85
6.24	Waste Employee Interviews	85
<b>7</b>	<b>Way Forward for Waste Management Facilities</b>	<b>81</b>
<b>8</b>	<b>Gap and Needs Assessment</b>	<b>82</b>
8.1	Gaps and Needs Identified in 2014 IWMP	82
8.2	Gaps and Needs Identified in 2020	84
<b>9</b>	<b>Goals, Objectives and Assessment of Alternatives</b>	<b>91</b>
9.1	Goals and George Local Municipality	91
9.2	Alignment with National and Provincial Waste Management Goals	92
9.3	Objectives for George Local Municipality	95
<b>10</b>	<b>Implementation Plan</b>	<b>100</b>
<b>11</b>	<b>Monitoring</b>	<b>105</b>
<b>12</b>	<b>References</b>	<b>106</b>

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2	21 August 2019	120	Draft IWMP	C. Kruger	K. Flood	K. Flood
3	12 November 2019	121	Final draft IWMP	C. Kruger	K. Flood	K. Flood
4	27 January 2020	178	Final IWMP	C. Kruger	K. Flood	K. Flood
5	10 March 2020	180	Final IWMP with budget added	C. Kruger	K. Flood	K. Flood

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## ***Abbreviations / Acronyms / Definitions***

CCA	Chromated copper arsenate
C&DW	Construction and demolition waste
DEA&DP	Department of Environmental Affairs and Development Planning
DEFF	Department of Environment, Forestry and Fisheries
DM	District Municipality
DOH	Department of Health
DoE	Department of Education
DWS	Department of Water and Sanitation (formerly Department of Water Affairs (DWA))
ECA	Environment Conservation Act (73 of 1989)
EPWP	Expanded Public Works Programme
eWASA	e-Waste Association of South Africa
FBRR	Free Basic Refuse Removal
GDPR	Gross Domestic Product per Region
GRDM	Garden Route District Municipality
GRWMIS	Garden Route District Waste Management Information System
HCRW	Health Care Risk Waste
HHW	Household Hazardous Waste
IDP	Integrated Development Plan
IPWIS	Integrated Pollutant and Waste Information System
IT	Information Technology
IWM	Integrated Waste Management
IWMP	Integrated Waste Management Plan.
IWMSA	Institute of Waste Management of South Africa
LAs	Local Authorities (Local and District level authorities)
LM	Local Municipality
MBLM	Mossel Bay Local Municipality

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MEC	Member of Executive Council
MIIU	Municipal Infrastructure Investment Unit
MRF	Material Recovery Facility
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act (59 of 2008)
NWMS	National Waste Management Strategy
OHSA	Occupational Health and Safety Act (85 of 1993)
PCBs	Polychlorinated Biphenyls
PE-HD	Polyethylene high density
PE-LD-	Polyethylene low density
PET	Polyethylene Terephthalate
POP(s)	Persistent Organic Pollutant(s)
PP	Polypropylene
PS	Polystyrene
PSC	Project Steering Committee
PUDSS	Permissible Utilisation and Disposal of Sewage Sludge
PVC	Polyvinyl Chloride
RDP	Reconstruction and Development Programme
ROSE	Recycling Oil Saves the Environment
RSA	Republic of South Africa
SABS	South African Bureau of Standards
SANBI	South African National Biodiversity Institute
SAWIS	South African Waste Information Centre
SIDA	Swedish International Development Cooperation Agency
UN	United Nations
WHO	World Health Organisation
WIS	Waste Information System
WMO(s)	Waste Management Officer(s)
WWTW	Waste Water Treatment Works
WCIWMP	Western Cape Integrated Waste Management Plan

## *Appendices*

### **Appendix A: Waste Legislation**

### **Appendix B: Waste Management Tariffs**

### **Appendix C: Newspaper Advertisement**

### **Appendix D: Comments and Responses Report**

## *List of Figures*

Figure 1: The waste hierarchy as per the National Waste Management Strategy (DEA, 2011) .....	4
Figure 2: IWMP planning phases as per the Guideline for the Development of Integrated Waste Management Plans (DEFF) .....	5
Figure 3: Integrated Waste Management Planning Cycle (source: DEA&DP, undated) .....	5
Figure 4: George Local Municipality Jurisdictional Area .....	7
Figure 5: George Local Municipality Biodiversity source 2017 WCBSP George [Vector] 2017. Available from the Biodiversity GIS website, downloaded on 16 May 2019 (WCBSP = Western Cape Biodiversity Spatial Plan) <a href="http://bgis.sanbi.org/SpatialDataset/Detail/627">http://bgis.sanbi.org/SpatialDataset/Detail/627</a> .....	29
Figure 6: George Local Municipality Geology.....	30

Figure 7: George Local Municipality Water Resources, data source Council for Scientific and Industrial Research. NFEPA wetlands 2011 [vector geospatial dataset] 2011. Available from the Biodiversity GIS website, downloaded on 16 May 2019, Council for Scientific and Industrial Research. NFEPA rivers 2011 [vector geospatial dataset] 2011. Available from the Biodiversity GIS website, downloaded on 16 May 2019.....	31
Figure 8: IWMP planning phases – situation analysis .....	32
Figure 9: Population density of the George jurisdictional area .....	33
Figure 10: Ethic profile .....	34
Figure 11: Houses by type of dwelling .....	35
Figure 12: RDP/ government subsidy status of households .....	35
Figure 13: Access to safe drinking water.....	35
Figure 14: Access of households to the internet.....	35
Figure 15: George Waste Profile (source: Eden District Municipality, 2016).....	38
Figure 16: George SDF Future Growth Development (George Municipality SDF, map 6, pg70 (27/05/2019) .....	48
Figure 17: Percentage of households receiving a weekly waste collection service in different suburbs of GLM (STATs SA Community Survey 2016 data) .....	51
Figure 18: Proposed location of composting facility.....	56
Figure 19: Home composting bin .....	57
Figure 20: Waste management facilities in the GLM area .....	58
Figure 21: Satellite image of Uniondale landfill site landfill site permitted area is shown in yellow (data source, Google Earth, image data, 17/04/2019) .....	59
Figure 22: Uniondale Landfill Site. Photo A, entrance to the Uniondale Landfill Site. Photo B, looking at the cells at the landfill site. Photo C, area around the landfill site and cells covered in windblown waste. Photo D, piling of waste where pickers are separating recyclables .....	61
Figure 23: Satellite image of Gwaing (George) landfill site, permitted boundary of the site shown in red (data source, Google Earth, image data, 27/01/2019).....	62
Figure 24: George Landfill Site. Photo A, entrance to the George Landfill Site. Photo B, looking at the compaction of waste at the landfill site. Photo C, Public dumping on the landfill site. Photo D, piling of waste where pickers are separating recyclables.....	64
Figure 25: Satellite image of George waste management facility (data source, Google Earth, image date, 17/04/2019) .....	64
Figure 26: George waste management facility. Photo A, Sorting and compacting areas at the transfer station. Photo B, Dump truck dumping waste to be sorted and compacted. Photo C, Looking to the North at the entrance of the Transfer Station. Photo D, Looking North at car ports and facilities for the staff at the transfer station .....	66
Figure 27: Satellite image of Gwaing Closed Landfill (data source, Google Earth, image data, 17/04/2019) .....	66
Figure 28: Examples of street bins in GLM .....	68
Figure 29: Photo A, Dumping along Miller Street. Photo B, Dumping at the end of Miller Street. Photo C, Dumping at Deur Street. Photo D, Dumping along the open area at Fiskaal Street.....	69



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Figure 30: Illegal dumping hotspots in GLM.....	70
Figure 31: Illegal dumping flyer used by GLM .....	72
Figure 32: Examples of waste awareness branding on bins, billboards and waste compactor trucks .	72
Figure 33: Photo plate the waste trucks within the GLM .....	75
Figure 34: Senior management organogram .....	78
Figure 35: Solid Waste and Environmental Health Services organogram.....	79
Figure 36: Senior waste management organogram.....	79
Figure 37: Waste removal organogram.....	80
Figure 38: Waste removal organogram.....	80
Figure 39: IWMP planning phases as per the Guideline for the Development of Integrated Waste Management Plans (DEA).....	105

## *List of Tables*

Table 1: The Waste Act Requirements for an Integrated Waste Management Plan	2
Table 2: George Municipality largest towns/ settlements (Stats SA, 2011)	8
Table 3: National Waste Management Strategy Objectives	9
Table 4: Summary of 2018 NWMS Goals	10
Table 5: Western Cape 2017 PIWMP Goals and Objectives	12
Table 6: Summary of waste infrastructure needs identified	15
Table 7: Summary of industries to which the commercial waste surveys where issued	16
Table 8: Facility inspections undertaken as part of this IWMP	16
Table 9: Stakeholders engaged during the review of this IWMP	17
Table 10: Project steering committee members	17
Table 11: Workshops undertaken during the review of this IWMP	17
Table 12: Key South African waste legislation	19
Table 13: Key international legislation	20
Table 14: Key Changes to Legislation	21
Table 15: Project Status	20
Table 16: Implementation status of the 2014 IWMP targets	21
Table 17: National Waste Management Strategy Objectives	26
Table 18: Progress towards compliance with NWMS action plan	27
Table 19: Population profile	34
Table 20: Language profile	34
Table 21: Household profile	34
Table 22: Education profile	34

Table 23: Access to toilet facilities	35
Table 24: Type of energy used for different household activities	35
Table 25: Households access to refuse services	35
Table 26: Employment status is those aged 15 – 64 (Census 2011)	36
Table 27: Average household income (Census 2011)	36
Table 28: GDP growth per municipality in the Garden Route Municipalities 2007 - 2017 (data source, Western Cape Provincial Treasury, 2018a)	36
Table 29: Waste profile for GLM (source: Garden Route Municipality, 2018)	37
Table 30: GLM waste profile (source: DEA&DP data provided on 27/03/2019, IPWIS data, data sourced from private recycling companies and data provided by GLM)	41
Table 31: Waste records (tonnes) for the GLM (January 2018 – December 2018) (source: DEA&DP, GLM and private recyclers)	41
Table 32: Theoretical calculation of domestic waste produced in the GLM	42
Table 33: Summary of hazardous waste generation in GLM in 2018 (data accessed on 21 July 2019)	44
Table 34: Summary of hazardous waste treatment and recycling/ recovery in GLM in 2018 (data accessed on 21 July 2019)	44
Table 35: Hazardous waste survey results	44
Table 36: Future domestic waste generation rates based on projected population growth rate of 1.35% per annum (population numbers from GLM IDP)	45
Table 37: SAWIS waste disposal records for GLM (data source, SAWIS, accessed on 17/04/2019)	46
Table 38: 2018 IPWIS waste disposal records for GLM (data source, IPWIS, provided by DEA&DP on 17/04/2019)	47
Table 39: List of companies and facilities registered on GRWIS (data source, GRDM)	47
Table 40: HCRW data for GLM January – December 2018 (data source, WCDoh)	48
Table 41: Waste collection services in the GLM (data source Stats SA Census 2001 and 2011 and Community Survey 2016)	49
Table 42: Waste collection services per household in the GLM (data source Stats SA Census 2001 and 2011 and Community Survey 2016)	49
Table 43: Waste service provision per area within the GLM (source: Community Survey 2016). Areas with a weekly collection service of less than 70% are shown in red	52
Table 44: Waste collection schedule	52
Table 45: Recyclables collected through the two bag system January – June 2019 (source, GLM)	53
Table 46: Areas serviced by the blue bag system	53
Table 47 : Summary of recycling data for GLM (data source, GLM and service provider)	54
Table 48: Summary of hazardous waste management facilities in the GLM	55
Table 49: Destination of hazardous waste	55
Table 50: Summary of waste management facilities in the GLM area	57
Table 51: Uniondale landfill site profile	60
Table 52: Gwaing (George) landfill site profile	62

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Table 53: George waste management facility profile	64
Table 54: Gwaing landfill site profile	66
Table 55: Waste awareness campaigns	71
Table 56: Waste management complaints (01/01/2018 – 31/12/2018)	74
Table 57: Waste management fleet	74
Table 58: Waste management organogram (permanent positions)	77
Table 59: Waste management organogram (contract positions)	78
Table 60: GLM waste tariff history for residential collection once a week	81
Table 61: Equitable share per Province (source, web reference 5)	81
Table 62: Indigent and poor households in GLM (source: GLM 2019 IDP)	82
Table 63: Waste management capital budget (2019/20)	82
Table 64: GLM waste management revenue (2019/2020)	83
Table 65: GLM waste management expenditure (2019/20)	84
Table 66: Comments/ concerns raised through GLM employee interviews	85
Table 67: Way forward for waste management facilities	81
Table 68: Gaps identified in 2014 IWMP (GLM, 2014)	82
Table 69: Waste management gap and needs	85
Table 70: Examples of Goals, Objectives and Target terminology	91
Table 71: Aligned of GLM Goals with National and Provincial Goals	92
Table 72: GLM waste management objectives and targets	95
Table 73: GLM implementation plan	100

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# 1 Introduction

The George Local Municipality (GLM) is required to develop an Integrated Waste Management Plan (IWMP) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The IWMP must be endorsed by the Department of Environmental Affairs and Development Planning (DEA&DP) after approval by the George Municipal Council and thereafter incorporated into the municipal IDP.

In terms of the Municipal Systems Act, a municipality must give effect to the provisions of the 152(1) and 153 of the Constitution and must:

- Give priority to the basic needs of the local community.
- Promote the development of the local community.
- Ensure that all members of the local community have access to at least the minimum level of available resources and the improvement of standards of quality over time.

GIBB Pty Ltd (hereafter referred to as GIBB) has been appointed for the revision of the Garden Route District Municipality (GRDM) IWMP and the IWMPs for the seven local municipalities in the GRDM, namely:

- George Local Municipality (GLM)
- Mossel Bay Local Municipality (MBLM)
- Bitou Local Municipality (BLM)
- Hessequa Local Municipality (HLM)
- Kannaland Local Municipality (KLLM)
- Knysna Local Municipality (KLM)
- Oudtshoorn Local Municipality (OLM)

## 1.1 Definition of Waste

The Waste Act defines waste as follows:

- a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or
- b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste—
  - i. once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;
  - ii. where approval is not required, once a waste is, or has been re-used, recycled or recovered;

- iii. where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or
- iv. where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.

## 1.2 Contents of an IWMP

The Waste Act outlines the minimum (at least) requirements for an IWMP. These requirements have been included in the table below along with a description of how this requirement has been met and details of where in this report that relevant information is located.

**Table 1: The Waste Act Requirements for an Integrated Waste Management Plan**

Waste Act section no.	Requirement	Section in the IWMP
12(1)(a)	Contain a situation analysis that includes:	
12(1)(a)(i)	A description of the population and development profiles of the area to which the plan related	Section 6.3 Demographics
12(1)(a)(ii)	An assessment of the quantities and types of waste that are generated in the area	Section 6.6 Waste Profile and section 6.7 Waste Generation
12(1)(a)(iii)	A description of the services that are provided , or that are available for the collection, minimisation, re-use, recycling and recovery, treatment and disposal of waste	Section 6.13 Waste Recycling
12(1)(a)(iv)	The number of persons in the area who are not receiving waste collection services	Section 6.4 Type of Housing and Access to Services
12(1)(b)	Within the domain of the municipality, set out how that municipality intends to:	
12(1)(b)(i)	To give effect, in respect of waste management, to Chapter 3 of the National Environmental Management Act	Section 1.1 Definition of Waste Section 1.2 Contents of an IWMP Section 1.4 Objectives of an Integrated Waste Management Plan Section 1.5 Integrated Waste Management Plan Development Process
12(1)(b)(ii)	To give effect to the objectives of this Act	Section 3 Legal Requirements Overview Section 4 Waste management Performance Review
12(1)(b)(iii)	To identify and address the negative impacts of poor waste management practise on health and the environment	Section 6.17 Other Waste Management Services Section 6.18 Complaints
12(1)(b)(iv)	To provide for the implementation of waste minimisation, re-use, recycling and recovery targets and initiatives	Section 6.13 Waste Recycling 6.14 Management of Hazardous Waste Section 6.17 Other Waste Management Services
12(1)(b)(v)	In the case of a municipal IWMP, to address the delivery of waste management services to residential premises	Section 6.4 Type of Housing and Access to Services
12(1)(b)(vi)	To implement the Republic's obligations in respect of relevant international agreements	Section 1.7 Context of Roles and Responsibilities Section 1.8 Alignment with other Strategic Plans Section 3 Legal Requirements Overview
12(1)(b)(vii)	To give effect to best environmental practice in respect of waste management	Section 6.13 Waste Recycling 6.14 Management of Hazardous Waste Section 6.15 Organic Waste Management 6.16 Waste Management Facilities

Waste Act section no.	Requirement	Section in the IWMP
		Section 6.17 Other Waste Management Services
12(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 local municipalities to give effect to the objects of this Act	Not applicable. Provincial measures to be implemented to support municipalities to give effect to the objectives of the NEMWA
12(1)(d)	Set out the Municipal priorities, objectives in respect of waste management in terms of NEMWA	Section 9 Goals and Objectives Section 10 Implementation Plan
12(1)(e)	Establish targets for the collection, minimisation, re-use and recycling of waste	Section 6.12 Waste Services Section 6.13 Waste Recycling 6.14 Management of Hazardous Waste Section 6.15 Organic Waste Management Section 6.16 Waste Management Facilities Section 6.17 Other Waste Management Services
12(1)(f)	Set out the approach of the municipality for the planning of any new facilities for disposal and decommissioning of existing waste disposal facilities	6.16 Waste Management Facilities Section 7.1 Landfill Sites Section 7.2 Other Waste Management Facilities
12(1)(g)	Indicate the financial resources required to give effect to the plan	Section 6.22 Financial Management Section 7.1 Landfill Sites Section 7.2 Other Waste Management Facilities
12(1)(h)	Describe how the municipality intends to give effect to its IWMP	Section 8.1 Gaps and Needs Identified in 2014 IWMP Section 8.2 Gaps and Needs Identified in 2019, Section 9. Goals and Objectives
12(1)(i)	Comply with requirements prescribed by the Minister	Section 1.1 Definition of Waste Section 1.2 Contents of an IWMP Section 1.4 Objectives of an Integrated Waste Management Plan Section 1.5 Integrated Waste Management Plan Development Process

### 1.3 History of Integrated Waste Management Plans in the George Local Municipality

This is the third generation IWMP for the GLM and this plan will cover the period 2020 – 2025. The first generation IWMP for GLM was developed in 2006, and was then subsequently revised in 2014. An IWMP is typically revised every 5 years to parallel the municipal IDP planning process, and to take into cognisance changes in the status quo of waste management and changes in legislation and guidelines related to waste management.

The development of the IWMP is currently out of sync with the GLM IDP cycles. The current GLM IDP (4<sup>th</sup> generation) covers the period 2017 -2022. The IDP is however reviewed on an annual basis, all the projects listed in the implementation plan of this IWMP should be included in the next annual review of the IDP to ensure budget is allocated for the implementation of the projects.

## 1.4 Objectives of an Integrated Waste Management Plan

The aim of an IWMP is to determine the status quo of waste management and identify measures to improve waste management in the municipality. The objective of this IWMP is to present a vision of waste management in the GLM over the next 5 years. The majority of the project identified in this IWMP will be conducted over a five year timeframe, however some longer term projects have also been identified. The National Waste Management Strategy of 2011 (NWMS) identifies the primary objective of integrated waste management planning as being to: “integrate and optimize waste management so that the efficiency of the waste management system is maximised and the impacts and financial costs associated with waste management are minimised, thereby improving the quality of life of all South Africans.”

The NWMS also presents the waste management hierarchy which outlines the preferred methods for management of waste.

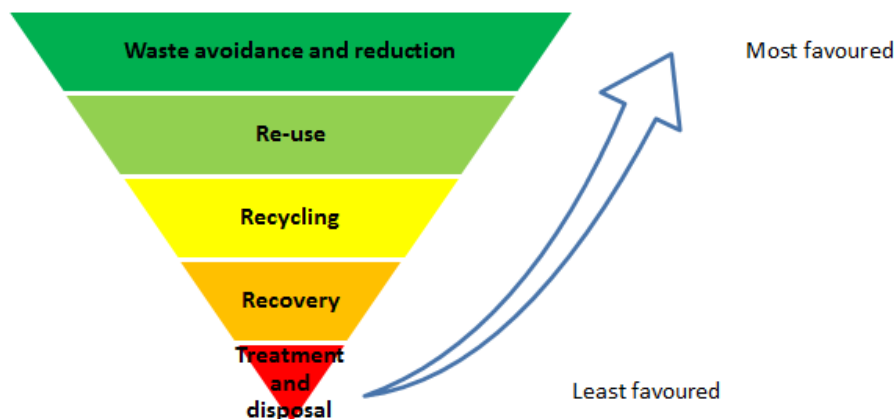
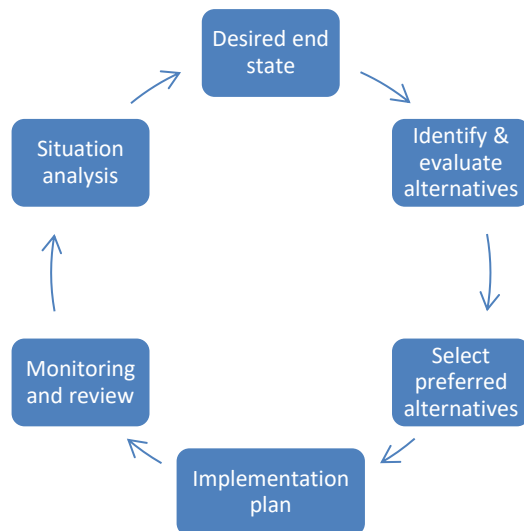


Figure 1: The waste hierarchy as per the National Waste Management Strategy (DEA, 2011)

The 2011 NWMS is currently under review. The goals of both the 2011 and draft 2018 NWMS will be reviewed and incorporated into this IWMP.

## 1.5 Integrated Waste Management Plan Development Process

In addition to the Waste Act, two documents were considered when developing this IWMP. The first is the Department of Environment, Forestry and Fisheries (DEFF) Guideline for the Development of Integrated Waste Management Plans (IWMPs). This guideline outlines the following planning process.

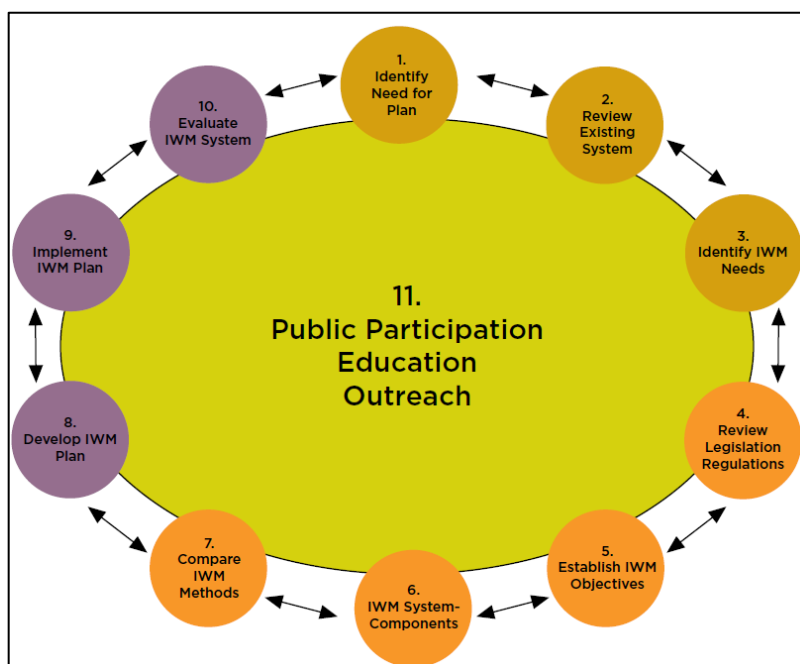


**Figure 2: IWMP planning phases as per the Guideline for the Development of Integrated Waste Management Plans (DEFF)**

The second is a guideline titled “Integrated Waste Management Planning (IWMP), A Guide for Waste Management Planning”, developed by DEA&DP, which consists of two volumes:

- Volume 1: Conducting a Status Quo Analysis; and
- Volume 2: Section A: Identification of Waste Management Needs and Objectives, and Section B: Development, Implementation and Evaluation of IWMPs.

Volume 1 presents the detailed planning cycle presented in Figure 3 below which is centred around public participation, education and outreach. This diagram clearly identifies the importance of IWMPs being developed in consultation with key stakeholders (authorities, waste management companies, industries etc.) and the public.



**Figure 3: Integrated Waste Management Planning Cycle (source: DEA&DP, undated)**



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## 1.6 Scope of the Integrated Waste Management Plan

This IWMP is limited to the jurisdictional area of the GLM which covers an area of 5,191km<sup>2</sup> and is composed of 27 wards. The GLM is one of seven local municipalities which fall under the Garden Route District Municipality (GRDM), formerly the Eden District Municipality, in the Western Cape Province.

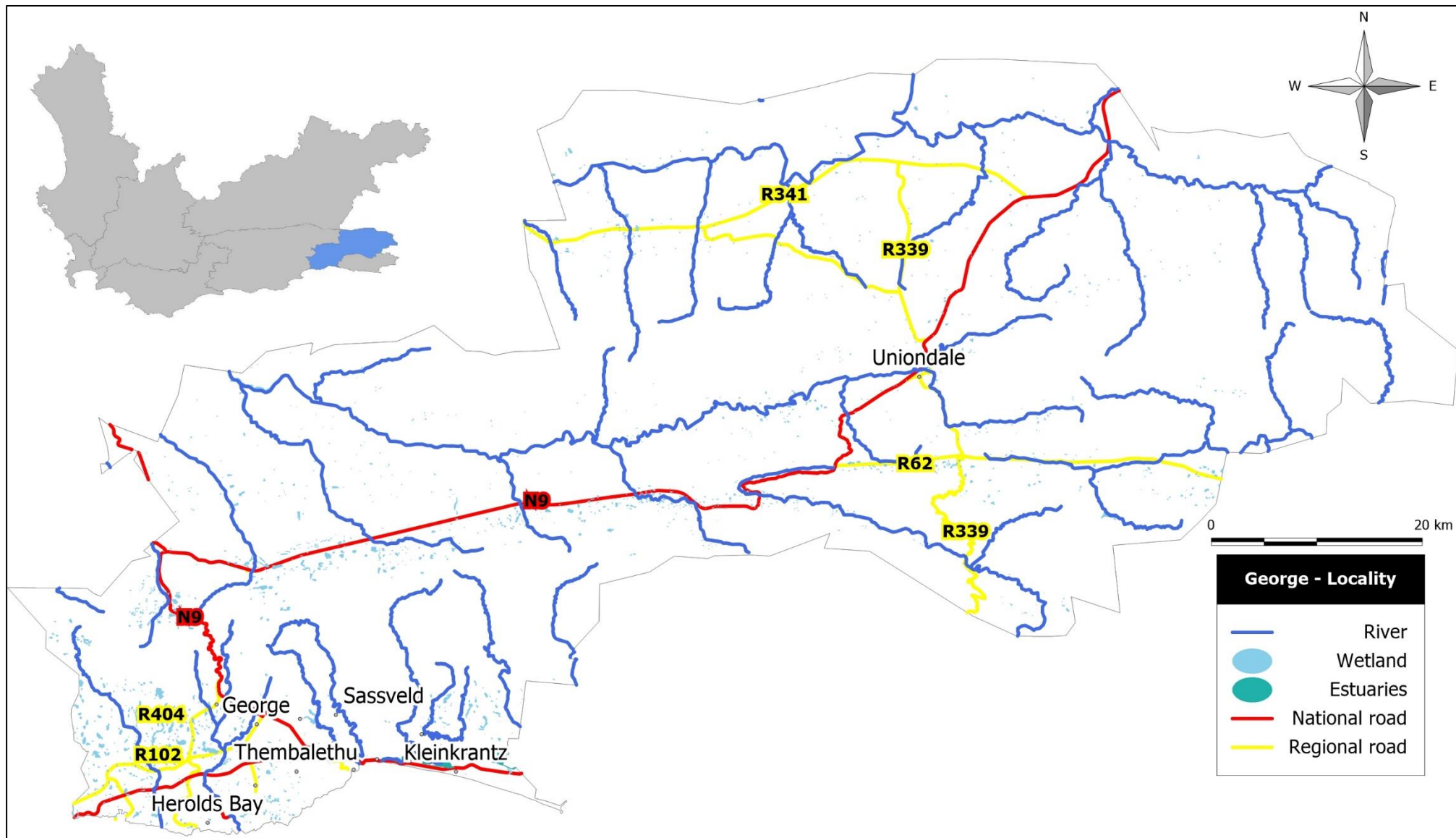


Figure 4: George Local Municipality Jurisdictional Area

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The majority (92.8%) of the population are located in the areas of George, George NU and Thembalethu. The population of GLM is 213,819 (GLM, 2019).

**Table 2: George Municipality largest towns/ settlements (Stats SA, 2011)**

Suburb	% of populations
Formosa State Forest	0.00
George	59.01
George NU	11.55
Haarlem	1.23
Herold's Bay	0.36
Swartberg State Forest	0.00
Thembalethu	22.26
Uniondale	2.34
Wilderness	3.14
Wilderness Lake Area	0.08
<b>Total</b>	<b>100%</b>

## **1.7 Context of Roles and Responsibilities**

### **1.7.1 National Government**

National government is tasked with establishing a National Waste Management Strategy, including norms, standards and targets. National norms and standards may cover all aspects of the waste value chain, from planning to service delivery.

### **1.7.2 Provincial Government**

Provincial governments are tasked with the implementation of the National Waste Management Strategy and national norms and standards, and may set additional, complementary provincial norms and standards. The Waste Act notes that these norms and standards must amongst other things facilitate and advance regionalization of waste management services. The Constitution requires Provincial Government to monitor and provide support to municipalities in the province and to promote the development of local government capacity.

### **1.7.3 Local Government**

The Waste Act requires local authorities to implement mechanisms for the provision of waste collection services including collection, storage and disposal. Local authorities are also required to facilitate recycling and waste diversion from landfill and manage waste information appropriately.

Local municipalities are also required to maintain separate financial statements, including a balance sheet of the services provided.

#### **(a) Responsibilities in Terms of Garden Route District Municipality By-Laws**

The GRDM defines a municipal waste collection service as a service which collects domestic waste and general business waste. This suggests that local municipalities are responsible for

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the collection of all domestic waste (which would include household hazardous waste), but only general waste generated by business or industry.

#### **1.7.4 Waste Management Officer**

The Waste Act requires that all local municipalities designate a waste management officer (WMO) from its administration who is responsible for co-ordinating waste management in the municipality.

The responsibilities of the WMO of a local municipality are defined in the National Waste Management Strategy (2011) as:

- Manage stakeholders in the implementation of the Waste Act.
- Liaise with EMI compliance monitoring activities in the municipality.
- Plan and implement the municipal IWMP and subsequent reporting cycles.
- Build capacity in relation to Waste Act implementation.
- Monitor adherence to norms and standards in the delivery of waste services.

The DEFF's Guideline for designation of WMOs (DEA, 2008) further expands on the role of the WMO for local municipalities.

### **1.8 Alignment with other Strategic Plans**

There are a number of strategic plans on a national, provincial and local level which have been taken into consideration during the developing this IWMP. A summary of these is provided in the section below.

#### **1.8.1 Alignment with National Strategic Plans**

(a) National Waste Management Strategy (2011)

The National Waste Management Strategy (NWMS) is structured around a framework of eight goals. The goals along with their respective targets were supposed to have been met by 2016. The third generation NWMS is currently under review, however it is anticipated that this IWMP will be finalised before the second generation NWMS is finalised.

**Table 3: National Waste Management Strategy Objectives**

Goal	Targets for 2016
1. Promote waste minimisation, re-use, recycling and recovery of waste.	<ul style="list-style-type: none"><li>• 25% of recyclables diverted from landfill sites for re-use, recycling or recovery</li><li>• All metropolitan municipalities, secondary municipalities, and large towns have initiated separation at source programmes</li><li>• Achievement of waste reduction and recycling targets as set in industry waste management plans for paper and packaging, pesticides, lighting (CFLs) and tyre industries</li></ul>

Goal	Targets for 2016
2. Ensure the effective and efficient delivery of waste services.	<ul style="list-style-type: none"> <li>95% of urban households and 75% of rural households have access to adequate levels of waste collection services</li> <li>80% of waste disposal sites have permits</li> </ul>
3. Grow the contribution of the waste sector to the green economy	<ul style="list-style-type: none"> <li>69,000 new jobs created in the waste sector</li> <li>2,600 additional SMEs and cooperatives participating in waste service delivery and recycling</li> </ul>
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	<ul style="list-style-type: none"> <li>80% of municipalities running local awareness campaigns</li> <li>80% of schools implementing waste awareness campaigns</li> </ul>
5. Achieve integrated waste management planning.	<ul style="list-style-type: none"> <li>All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs</li> <li>All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS</li> </ul>
6. Ensure sound budgeting and financial management for waste services	<ul style="list-style-type: none"> <li>All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs</li> </ul>
7. Provide measures to remediate contaminated land.	<ul style="list-style-type: none"> <li>Assessment complete for 80% of sites reported to the contaminated land register</li> <li>Remediation plans approved for 50% of confirmed contaminated sites</li> </ul>
8. Establish effective compliance with and enforcement of the Waste Act	<ul style="list-style-type: none"> <li>50% increase in the number of successful enforcement actions against non-compliant activities.</li> <li>800 environmental management inspectors (EMIs) appointed in the three spheres of government to enforce the Waste Act</li> </ul>

(b) Draft National Waste Management Strategy (2018)

As previously mentioned, the DEFF is currently revising the 2011 NWMS. The 2018 NWMS has three strategic goals to drive an improvement in waste management in South Africa:

1. Waste minimisation
2. Effective and sustainable waste services
3. Awareness and compliance

These are unpacked further in the table below.

**Table 4: Summary of 2018 NWMS Goals**

Goal	Implementation mechanism
1. Prevent waste, and where waste cannot be prevented, divert 50% of waste from landfill within 5 years; 65% within 10 years; and at least 80% of waste within 15 years through reuse, recycling, and recovery and alternative waste treatment.	<p><b>Waste Prevention:</b></p> <ul style="list-style-type: none"> <li>Prevent waste through cleaner production, industrial symbiosis, and extended producer responsibility</li> <li>Prevent food waste by working with agricultural producers, retailers, the hospitality sector and consumers.</li> </ul> <p><b>Waste as a Resource:</b></p> <ul style="list-style-type: none"> <li>Divert organic waste from landfill through composting and the recovery of energy</li> <li>Divert construction and demolition waste from landfill through beneficiation</li> <li>Increase recycling and recovery rates</li> <li>Increase technical capacity and innovation for the beneficiation of waste</li> </ul>
2. All South Africans live in clean communities with	<p><b>Waste Collection:</b></p> <ul style="list-style-type: none"> <li>Implementation of the DEFF separation at source policy to promote reuse,</li> </ul>

Goal	Implementation mechanism
waste services that are well managed and financially sustainable.	<ul style="list-style-type: none"> <li>recycling and recovery of waste</li> <li>Safe and environmentally sustainable disposal of hazardous household wastes.</li> </ul> <p><b>Integrated Waste Management Planning:</b></p> <ul style="list-style-type: none"> <li>Provinces provide effective regional guidance and oversight in the development and implementation of metro, district and local municipality IWMPs within the context of overarching Provincial Integrated Waste Management Plans</li> <li>All local authorities to include provisions for recycling drop-off/buy-back/storage centres in their IWMPs by 2020</li> </ul>
3. South Africans are aware of waste and a culture of compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping.	<ul style="list-style-type: none"> <li>Reduction of littering and illegal dumping due to attitudinal shifts and greater public awareness of the environmental damage caused by waste</li> <li>Enhanced capacity to enforce the Waste Act and International Agreements on waste and pollution</li> <li>Municipal landfill sites and waste management facilities comply with licensing standards</li> <li>All local authorities to include provisions for recycling drop-off/buy-back/storage centres in their IWMPs by 2020</li> </ul>

### (c) Operation Phakisa: Chemicals and Waste Phakisa

Operation Phakisa, an initiative which looks to unlock South Africa's economic potential, sets a number of waste-related national targets. These targets include:

- Reduce industrial waste to landfill by 75%
- Reduce municipal waste to landfill site 50%
- Move towards zero sewage sludge to landfill by 2023
- Move toward zero meat production waste to landfill by 2023
- Increase e-waste recycling from 7% to 30%
- Create 1,000 jobs through recycling and re-use of government computers
- 50% of households in metropolitan municipalities separating at source by 2023
- 8,000 direct and indirect jobs through plastic recycling
- Produce building aggregates and construction inputs from rubble and glass

### 1.8.2 National Development Plan

South Africa National Development Plan (NDP) was published in 2012 and outlined the required steps to eliminate poverty and reduce inequality by 2030.

The NDP sets the following objectives related to waste management:

- An absolute reduction in the total volume of waste disposed to landfill site each year through a national recycling strategy
- Carbon price, building standards, vehicle emission standards and municipal regulations to achieve scale in stimulating renewable energy, waste recycling and retrofitting buildings
- Consumer awareness initiatives and sufficient recycling infrastructure should result in South Africa becoming a zero waste society

- Implement a waste management system through rapid expansion of recycling infrastructure and encouraging composting of organic domestic waste to bolster economic activity in poor urban communities

The NDP also recognises the opportunity for the manufacturing sector to reuse waste.

### 1.8.3 Back to Basics

The National Department of Cooperative Governance and Traditional Affairs (COGTA) showcased a new strategy at the Presidential Local Government Summit in 2014. The strategy was titled Back to Basics: Serving our Communities Better.

The strategy identified that although progress has been made with regard to service delivery since 1994 more actions are needed to support, education and where required enforce the government mandate for service delivery.

The Back of Basics programme is centred around five pillars:

1. **Put people and their concerns first** and ensure constant contact with communities through effective public participation platforms
2. **Create conditions for decent living** by consistently delivering municipal services to the right quality and standard. This includes planning for and delivery of infrastructure and amenities, maintenance and upkeep, including the budgeting to do this. Ensure no failures in services and where there are, restore services with urgency
3. **Be well governed** and demonstrate good governance and administration – cut wastage, spend public funds prudently, hire competent staff, ensure transparency and accountability
4. **Ensure sound financial management and accounting**, and prudently manage resources so as to sustainably deliver services and bring development to communities
5. **Build and maintain sound institutional and administrative capabilities**, administered and managed by dedicated skilled personnel at all levels

The Back to Basics pillars are all applicable to waste management within the municipality.

### 1.8.4 Alignment with Provincial Strategic Plans

(a) Western Cape Integrated Waste Management Plan

The first generation Western Cape Provincial IWMP (PIWMP) was revised in 2017. The Western Cape PIWMP is centred around 4 goals and 14 strategic objectives.

**Table 5: Western Cape 2017 PIWMP Goals and Objectives**

Goal	Strategic Objectives
Goal 1. Strengthen education, capacity and advocacy towards	1. Facilitate consumer and industry responsibility in integrated waste management

Goal	Strategic Objectives
integrated waste management	<ol style="list-style-type: none"> <li>Promote and ensure awareness and education of integrated waste management</li> <li>Build and strengthen waste management capacity</li> </ol>
Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	<ol style="list-style-type: none"> <li>Facilitate municipal waste management planning</li> <li>Promote industry waste management planning</li> <li>Promote the establishment of integrated waste management infrastructure and services; and</li> <li>Ensure effective and efficient waste information management</li> </ol>
Goal 3. Effective and efficient utilisation of resources	<ol style="list-style-type: none"> <li>Minimise the consumption of natural resources</li> <li>Stimulate job creation within the waste economy</li> <li>Increase waste diversion through re-use, recovery and recycling</li> </ol>
Goal 4. Improved compliance with environmental regulatory framework	<ol style="list-style-type: none"> <li>Strengthen compliance monitoring and enforcement</li> <li>Remediate and rehabilitate contaminated land</li> <li>Facilitate the development of waste policy instruments</li> <li>Promote self/co-regulatory measures</li> </ol>

As a municipality within the Western Cape, the responsibility for the implementation of a number of projects in the PIWMP falls to the GLM. The GLM IWMP will be aligned with the Western Cape PIWMP and such projects will be incorporated into the implementation plan for the GLM.

#### (b) Western Cape Strategic Framework for the Provincial Strategic Plan 2019-2024

The draft Strategic Framework for the Provincial Strategic Plan identified that waste management in the province is in decline or a concern. Further, waste management was identified as one of the top five municipal planning priorities across the province.

The framework has five vision inspired priorities:

1. Safe and cohesive communities
2. Growth and jobs
3. Empowering people
4. Mobility and spatial transformation
5. Innovation of culture

Waste management is addressed under priority area 1 which identified the need for improving the cleanliness of neighbourhoods. Cleaner neighbourhoods will be achieved through improving waste management in vulnerable communication and using the Green Scorpions to target illegal dumping.

One of the areas covered in priority area 2 is climate change and resource pressure. The need to divert waste from landfill and invest in waste infrastructure is identified here.

#### (c) Western Cape Provincial Spatial Development Framework

The aim of the 2014 Provincial Spatial Development Framework (PSDF) is to bridge the gap between the National Development Plan and provincial strategies with the aim of improving service delivery. The 2014 Western Cape PSDF identifies that as the population of the Western



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Cape continues to increase additional waste disposal facilities will be required, unless the waste management hierarchy is implemented. The PSDF further recognises the need for innovation in the waste sector to increase waste recycling and reuse. The need for waste-to-energy in the long term is also referred to in the plan.

Two provincial spatial policies related to waste management were identified:

1. Mainstream waste recycling and reuse in area of high waste generation to unlock economic opportunities and save landfill site airspace
2. Close down illegal waste sites and establish new regional facilities near rail facilities to decrease transportation costs

(d) Western Cape Green Economy Strategy Framework, 2013

The 2013 Western Cape Green Economy Strategy Framework presents the Western Cape's vision of becoming the leading green economic hub in Africa.

The strategy identifies three high level priorities for green growth:

1. Natural gas and renewables
2. Financial infrastructure
3. Green jobs – including the waste sector

(e) Western Cape Waste Awareness Strategy

The Western Cape Waste Awareness Strategy was released by DEA&DP in March 2018. The strategy is designed as a guideline to assist with the successful development and implementation of waste awareness initiatives. The plan identifies several mechanisms to increase waste management awareness and outlines the advantages and disadvantages of each initiative.

### **1.8.5 Alignment with Regional Strategic Plans**

(a) Assessment of the Municipal Integrated Waste Management Infrastructure: Eden District

DEA&DP commissioned a study of waste management infrastructure of the seven local municipalities in the GRDM (formerly Eden District Municipality) in 2016. The aims of the study were to:

- Improve compliance of waste facilities with existing waste management licenses (WML)
- Identify additional infrastructure which is needed to achieve a 20% diversion of waste from landfill by 2019
- Determine additional infrastructure requirements to allow municipalities to remain compliance up to 2030

The report identified that infrastructure upgrades were required for the GLMs landfill sites in order for the operation and closure of the sites to be compliant with WMLs. The total cost of upgrades was estimated at R 44 714 500.00. The report did calculate operational and rehabilitation costs for the landfill sites.

In addition to upgrading of the landfill sites, the following additional waste management infrastructure was identified as a need

**Table 6: Summary of waste infrastructure needs identified**

Facility	Area	Description	Budget (excl. VAT)
Gwaing Closed Landfill	George	Site preparation, fencing and installation of monitoring boreholes	R 3,067,088.64
George Garden Waste & Builder's Rubble site	George	Rehabilitation and Closure (Fencing, Capping, Leachate Management)	R 27,697,623.83
George refuse transfer station	George	New noticeboards	R 10,480.00
Uniondale Landfill Site	Uniondale	Rehabilitation and Closure (Fencing, Capping, Leachate Management)	R 13,939,318.21

#### 1.8.6 Eden District Municipality Waste Management Policy

The Eden District Municipal Waste Management Policy was approved by council in 2017. The policy outlines the mechanisms through which the GRDM will exercise its responsibilities in terms of waste management. The policy covers the following key items:

1. **Waste information management** – the implementation of the Garden Route (Eden District) waste information system (GRWIS)
2. **Waste management plans** – requirements for industry waste management plans and municipal IWMPs
3. **Waste minimisation and recycling** – encourage waste minimisation and recycling, introduce a system of accreditation for waste collectors, transporters and recyclers
4. **Municipal service** – adoption of waste management tariffs for the regional landfill site, establishment of a district inter-municipal waste management forum
5. **Service provider** – makes provision for the GRDM to enter into a public private partnership (PPP) with a service provider who can be used to provide waste management services
6. **Categorisation of waste and the management of certain types of waste** – implementation of the National Norms and Standards for Assessment of Waste for Landfill
7. **Commercial services and the accreditation of service providers** – allows for the development of a permit system for hazardous waste management companies.
8. **Administrative enforcement** – enforcement of waste management by-laws, training of municipal officials.

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### 1.8.7 Alignment with Local Strategic Plans

#### (a) George Local Municipality Fourth Generation Integrated Development Plan

The fourth generation George Integrated Development Plan (IDP) covers the period 2017 – 2022. The IDP is centred around nine strategic objectives:

1. To develop and grow George, through revitalising the business district and job creation.
2. Keep George safe, clean and green, through maintenance and cleaning of the physical environment. Developing on current recycling initiatives and creating green spaces. Reduce waste by keeping George clean.
3. Provide affordable services, by reducing Service-delivery backlogs. Provide low-cost housing and GAP housing to the people of George. Develop an integrated public transport network and improve road conditions
4. Provide Participative Partnerships within the community of George. Increase public inputs in strategic decision-making and increase partnerships with different stakeholders to strengthen the public-private partnerships in George
5. Promote Good Governance and Human Capital. This can be done through comprehensive audit of operations, processes, duties and service delivery standards of Directorates. Look to implement the Long-Term Financial Plan.

The following waste-related objectives for the GLM before 2022:

- To provide an integrated waste-management service for the total municipal area
- To provide basic services to informal settlements that comply with the minimum standards
- To build on current recycling initiatives and secure a meaningful reduction in waste levels
- To maintain and improve on blue and green drop status in water and sewage services by the retaining of capacity and the further improvement of capacity.
- To build on the current waste co-operative governance relationship

Once this IWMP is finalised it will be incorporated into the IDP. The incorporation of the IWMP into the IDP is essential in order for budget to be allocated to the projects which will be identified in the implementation plan.

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## 2 Approach and Methodology

### 2.1 Legislated Requirements for Integrated Waste Management Plans

The requirements of the National Environmental Management Waste Act (Act 59 of 2008, as amended) (refer to Table 1) and the Department of Environmental Affairs (DEFF) Guideline for the Development of Integrated Waste Management Plans were used to guide the development of this IWMP.

### 2.2 Methodology

A phased approach was used to develop the IWMP, as detailed below.

#### 2.2.1 Integrated Waste Management Plan Review

The 2014 GLM IWMP was reviewed for content and a performance review of the projects listed in the implementation plan was also undertaken.

#### 2.2.2 Literature Review

A review of legislation was undertaken. This included the following key documents.

- Western Cape Provincial IWMP
- Western Cape Position Papers:
  - Position Paper on the Provision of Municipal Waste Management Services within the Context of Rapid Urbanisation (2017)
  - Position Paper on the Regionalisation of Waste Management Services (2017)
  - Position Paper on Organic Waste Management (2017)
  - Position Paper on Construction and Demolition Waste Management (2017)
- George 2<sup>nd</sup> generation Municipality Integrated Waste Management Plan (2014 - 2019)
- George 4<sup>th</sup> generation Integrated Development Plan (2017 – 2022)
- Garden Route (Eden) Waste Information System (GRWIS), Integrated Population and Waste Information System (IPWIS) and South African Waste Information System (SAWIS) statistics (*Note: all data on SAWIS is obtained from IPWIS on a quarterly basis*)
- Waste facility licenses
- Statistics SA Census 2011 and Community Survey 2016 data

A full list of documentation reviewed is available as the reference list at the end of this report.

#### **Waste information systems:**

This report refers to a number of different waste information systems, a brief description of the different systems is provided below.

1. **South African Waste Information System (SAWIS)** – A national waste information system managed by DEFF. Information reported on the SAWIS is publically accessible through the South African Waste Information Centre (SAWIC)
2. **Integrated Pollutant and Waste Information System (IPWIS)** – A provincial waste information system managed by DEA&DP. Data reported on the IPWIS is uploaded to the SAWIS on a quarterly basis
3. **Garden Route Waste Management Information System (GRWMIS)**– a district waste information system managed by GRDM
4. **George Collaborator System** – the in-house information system used and managed by GLM

### **2.2.3 Questionnaires**

A questionnaire was developed for use when engaging with private companies and industries. The aim of the questionnaire was to capture information on the generation of business, commercial, agricultural and industrial waste with a focus on hazardous waste. A database of industry in GLM was developed based on:

- Companies identified in the project initiation meeting
- Recommendations from the GLM
- Review of members of the George Business Chamber

Details of the industries to which the questionnaires were issued to are shown below.

**Table 7: Summary of industries to which the commercial waste surveys where issued**

Industry type	No. survey issued	No. responses
Hazardous waste management company	2	1
Abattoir	2	0
Food Industry	1	1
Medical Waste Company	2	2
Timber mill	3	3
Automotive	2	2
Recycling company	2	2
E-Waste Recycling	1	0
<b>Total</b>	<b>14</b>	<b>11</b>

### **2.2.4 Site Visits and Ground-Truthing**

A site visit was undertaken in GLM on 01 – 05 April 2019. Details of facilities visited and interviews undertaken are listed below.

**Table 8: Facility inspections undertaken as part of this IWMP**

Facility	Date of visit
George landfill site (operational)	02 April 2019
George transfer station (operational)	02 April 2019
Uniondale landfill site (operational)	03 April 2019

### 2.2.5 Engagements with George Local Municipality Employees

The following personnel at GLM were engaged and interviewed.

**Table 9: Stakeholders engaged during the review of this IWMP**

Designation	No. interviews undertaken	Date	Engagement
Deputy Financial Officer	1	03 April 2019	Meeting
Senior Manager: Waste manager	1	01 - 02 April 2019	Meeting
Senior Foreman: Solid Waste Management	1	02 April 2019	Interview
General workers (refuse collectors)	3	03 April 2019	Interview
Refuse truck driver	3	03 April 2019	Interview

### 2.2.6 Project Steering Committee

The review of the GLM IWMP was undertaken as part of the IWMP review for the entire GRDM. A project inception meeting was held on 26 February 2019 to establish the project steering committee (PSC) which included municipal waste managers from throughout the district. The details of the PSC are presented in the table below.

**Table 10: Project steering committee members**

Name	Designation	Organisation
Morton Hubbe	Waste Manager	Garden Route District Municipality
Johan Gie	District Waste Management Officer	Garden Route District Municipality
Douglas Baartman	Waste Manager	Bitou Local Municipality
Janine Fernold	Waste Manager	George Local Municipality
Abraham Delport	Supervisor: Landfill Sites	Kannaland Local Municipality
Sherilene Adams	Adminstrator (responsible for Waste Management)	Kannaland Local Municipality
Randall Bower	Waste Manager	Knysna Local Municipality
Sivuyile Mtila	Senior Manager: Waste Management	Mossel Bay Local Municipality
Rodwell Witbooi	Waste Manager	Oudtshoorn Local Municipality
August Hoon	Deputy Director: Waste Management Planning	DEA&DP
Dean Gilbert	Deputy Director: Waste Management Planning	DEA&DP
Kate Flood	Environmental Scientist	GIBB

### 2.2.7 Presentations and Workshops

One workshop of the GLM IWMP has been undertaken to date.

**Table 11: Workshops undertaken during the review of this IWMP**

Date	Location	No. attendees	Stakeholders in attendance
13 June 2019	George municipal offices, George	4	GLM and GIBB
26 August 2019	George municipal offices, George	5	GLM and GIBB
27 August 2019	George municipal offices, George	-	Council, GLM and GIBB

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### 2.2.8 Public Participation Process (PPP)

The GLM IWMP was made available for review by the public for a period of 21 days (18 October – 08 November 2019) to obtain their comments. The review of the IWMP and the period for which the IWMP was made available to the public was advertised in George Herald on the 17 October 2019 (Refer to Appendix B for proof of PPP).

The report was made available at the following locations for review:

- George library, 3 Caledon St, Campher's Drift, George, 6529, Tel: 044 801 9288
- GLM's website: <http://www.gardenroute.gov.za/documents/>
- GIBB's website: <http://projects.gibb.co.za>

The only comments received on the IWMP were from DEA&DP, a copy of these comments and responses to these comments are included in Appendix D.

## 2.3 Assumptions and Limitations

This situation analysis has drawn information from a number of sources including interviews with municipalities and stakeholders, IWMPs, GRWIS, IPWIS and SAWIS records, GLM records and various literature sources. All data on SAWIS is obtained from IPWIS on a quarterly basis. It is assumed that the information given verbally in interviews and documented information is accurate.

## 3 Legal Requirements Overview

### 3.1 South African Legislation

A summary of key South Africa legislation governing waste management is presented in the table below. A more comprehensive summary of South Africa and international waste legislation will be added to the report as **Appendix A**.

**Table 12: Key South African waste legislation**

Legislation/ guidelines	Summary
Constitution of South Africa (Act 108 of 1996)	Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or wellbeing; and to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures
White Paper on Integrated Pollution and Waste Management for South Africa (1999)	<p>The White Paper on Integrated Pollution and Waste Management is a subsidiary policy of the overarching environmental management and constitutes South Africa's first policy document focused on integrated waste management. This national policy set out Government's vision for integrated pollution and waste management in the country and applies to all government institutions and to society at large and to all activities that impact on pollution and waste management.</p> <p>The overarching goal of the policy, is integrated pollution and waste management. The intention is to move away from fragmented and uncoordinated pollution control and waste management, towards an approach that incorporates pollution and waste management as well as waste minimisation.</p>
National Environmental Management Act (Act 107 of 1998, as amended)	The objective of NEMA is to provide for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management.
National Environmental Management Waste Act (Act 59 of 2008, as amended)	The act covers a wide spectrum of issues including requirements for a National Waste Management Strategy, IWMPs, definition of priority wastes, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, waste information management, as well as addressing contaminated land.
National Pricing Strategy (GN 904 of 2016)	The strategy aims to fund re-use, recovery and recycling of waste through the extended producer responsibility principal.
National Waste Information Regulations (GN 625 of 2013)	These regulations give effect to the South African Waste Information System and specify registration and reporting requirements.
National Domestic Waste Collection Standards (GN 21 of 2011)	These specify methods for how domestic waste should be collected. Consideration is given to an appropriate level of service based on the nature (e.g. rural vs urban) of municipalities
Minimum Requirements for Waste Disposal by Landfill (1998)	<p>These minimum requirements form part of a three part series which were developed by the Department of Water Affairs and Forestry. The other documents in the series are 'Minimum requirements for the handling, classification and disposal of hazardous waste' and 'Minimum requirements for monitoring at waste management facilities. The minimum requirements for waste disposal by landfill provide guidance on:</p> <ul style="list-style-type: none"> <li>• Landfill site classification</li> <li>• Site selection for landfill sites and ranking systems of candidate sites</li> <li>• Feasibility studies for landfill sites and the required site/ specialist investigations</li> <li>• Design considerations</li> </ul>



Legislation/ guidelines	Summary
	<ul style="list-style-type: none"> <li>• Permitting and environmental impact assessment</li> <li>• Operation and control</li> <li>• Site closure</li> </ul>

## 3.2 International Legislation

**Table 13: Key international legislation**

Legislation/ guidelines	Summary
Basal Convention of the Control of Trans-Boundary Movement of Hazardous Wastes and Their Disposal (1989)	<p>The Basel Convention (1989) is a global agreement which seeks to address the trans-boundary movement of hazardous waste. The convention is centred on the reduction of the production of hazardous waste and the restriction of trans-boundary movement and disposal of such waste. It also aims to ensure that strict controls are in place when any trans-boundary movement and disposal of hazardous waste does occur, and ensures that it is undertaken in an environmentally sound and responsible manner.</p> <p>The key objectives of the Basel Convention are:</p> <ul style="list-style-type: none"> <li>• To minimise the generation of hazardous wastes in terms of quantity and hazardousness.</li> <li>• To dispose of hazardous waste as close to the source of generation as possible.</li> <li>• To reduce the movement of hazardous wastes.</li> <li>• Locally, draft regulations are being prepared in an effort to control the movement of such waste.</li> </ul> <p>In response to the ever growing impact of plastic waste on the environment the Basal Convention was amended in May 2019 to regulate global trade in plastic waste.</p>
Rotterdam Convention (1998)	<p>The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Parties can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.</p>
Stockholm Convention	<p>The Stockholm Convention was signed in 2001, South Africa became a party of the convention in 2002 and the convention came into effect in 2004. The Stockholm Convention addresses the management of persistent organic pollutants (POPs), which pose a threat to both health and the environment. Member countries of the convention have agreed to phase out POPs, and prevent their import or export. It imposes restrictions on the handling of all intentionally produced POPs, i.e. identified highly toxic, persistent chemicals.</p> <p>The 12 POPs that have been identified under the convention are aldrin, chlordane, dieldrin, dichloride-diphenyl-trichloroethane (DDT), endrin, Hexachlorobenzene (HCB), heptachlor, mirex, polychlorinated biphenyls (PCBs), toxaphene, dioxins, and furans.</p> <p>DEFF published the National Implementation Plan for the Stockholm Convention of POPs in 2011</p>
London Convention on Prevention of Marine Pollution by Dumping of Waste and Other Matters (1972)	<p>The London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, 1972, aims to prevent marine pollution by preventing the dumping of wastes such as industrial waste, sewage sludge, dredged material and radioactive waste at sea, as well as incineration at sea. South Africa is a signatory to the convention and the associated 1996 Protocol.</p> <p>This convention and its various protocols were incorporated into the following South African legislation:</p>

Legislation/ guidelines	Summary
	<ul style="list-style-type: none"> <li>Marine Pollution, Prevention of Pollution from Ships Act (Act 2 of 1986), and the regulations concerning the Prevention of Pollution by Garbage from Ships Regulations (GN R1490, published in Government Gazette No. 14000, dated 29 May 1992).</li> <li>The Dumping at Sea Control Act (Act 73 of 1980).</li> </ul>
Montreal Protocol on Substances that Deplete the Ozone Layer (1989)	South Africa is a party to the Montreal Protocol, an international agreement which addresses the phase out of ozone-depleting substances.

### 3.3 Key Changes to Legislation Since 2014

The following table presents key changes and updates to waste legislation since the 2014 IWMP.

**Table 14: Key Changes to Legislation**

Legislation	Key changes
National Environmental Management Waste Amendment Act (Act 26 of 2014)	<ul style="list-style-type: none"> <li>Substitution and deletion of some definitions</li> <li>Establish a waste pricing strategy</li> <li>Establish a waste management bureau</li> <li>Transitional arrangement for existing industry waste management plans</li> </ul>
National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste (GN 1093 of 2017).	These norms and standards were developed to reduce the licensing requirements for low impact waste management activities. The norms and standards are applicable to all facilities where general waste is sorted, crushed, ground, crushed, screened or baled. All facilities where such activities are undertaken need to be registered with the provincial authority. Facilities with an operational area in excess of 1,000m <sup>2</sup> need to be registered and comply with all the requirements of the norms and standards.
National Environmental Management Waste Act (GN 1094 of 2017) Amendment to the list of waste management activities that have, or are likely to have, a detrimental effect on the environment.	The list of waste management activities that have, or are likely to have, a detrimental effect on the environment were updated in 2015 to remove low impact activities related to waste management including the sorting, shredding, grinding, crushing, screening and baling of general waste.
National Pricing Strategy for Waste Management	<p>The key aims of the strategy is to increase the diversion of waste from landfill, reduce the generation of waste and encourage reduction, reuse and recycling of waste. The strategy provides a methodology for setting waste management charges. The strategy identifies three economic instruments for waste management:</p> <ol style="list-style-type: none"> <li><b>Downstream instruments</b> – volumetric tariffs (pay-as-you-throw) and waste disposal taxes which would be applied to landfilling or incineration of waste.</li> <li><b>Upstream instruments</b> – material and input taxes which would apply to virgin materials and hazardous materials, product taxes, advance recycling fees or advance disposal fees, deposit-refund scheme and extended producer responsibility fees.</li> <li><b>Subsidy-based instruments</b> – recycling subsidies, tax rebates and benefits, capital financing.</li> </ol>
3 <sup>rd</sup> National Waste Management Strategy	As previously discussed, the 2 <sup>nd</sup> generation NWMS is currently under review. The 3 <sup>rd</sup> generation presents three strategic goals for improving waste management in South Africa.
National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) NOTE: These norms and	<p>The norms and standards control the disposal of waste at different classes of landfill site. The disposal requirements for waste are determined based on the landfill site classification and barrier design.</p> <p>Section 5 notes waste disposal restrictions. The following restrictions must</p>

Legislation	Key changes	
standards were published prior to the 2014 IWMP being finalised, it is included in this list and a the date by which disposal restrictions came into effect for some waste streams have come into effect over the last 5 years.	have come into effect since 2014 or will be coming into effect shortly:	
	Waste type prohibited or restricted in terms of disposal	Compliance timeframe
	POP pesticides listed under the Stockholm Convention	8 years (August 2021)
	Other waste pesticides	4 years (August 2017)
	Other batteries	8 years (August 2021)
	Re-usable, recoverable or recyclable used lubricating mineral oils and oil filters	4 years (August 2017)
	Re-usable, recoverable or recyclable used or spent solvents	5 years (August 2018)
	PCB containing waste (>50mg/kg or 50 ppm)	5 years (August 2018)
	Hazardous waste electric and electronic equipment - lamps	3 years (August 2016)
	Hazardous waste electric and electronic equipment - other	8 years (August 2021)
	Waste tyres – quartered	5 years (August 2019)
	Liquid waste (i) Waste which has an angle repose of less than 5 degrees, or becomes free-flowing at or below 60°C or when it is transported, or is not generally capable of being picked up by a spade or shovel; or Waste with a moisture content of >40% or that liberates moisture under pressure in landfill conditions, and which has not been stabilised by treatment	6 years (August 2019)
	Hazardous waste with a calorific value of: (i) >25 MJ/kg (ii) >20 MJ/kg (iii) >10 MJ/kg (iv) >6% TOC	4 years (August 2017) 6 years (August 2019) 12 years (August 2025) 15 years (August 2028)
	Brine or waste with a high salt content (TDS >5%), and a leachable concentration for TDS of more than 100,000 mg/l	8 years (August 2021)
	Disposal of garden waste (i) 25% diversion from the baseline at a particular landfill of separated garden waste (ii) 50% diversion from the baseline at a particular landfill or separated garden waste	5 years (August 2018) 10 years (August 2023)

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## 4 Waste Management Performance Review

### 4.1 Implementation of 2014 Integrated Waste Management Plan

Projects in the GLM 2014 IWMP were grouped under the following headings:

- Public awareness and education
- Quantifying prevention
- Post collection recovery
- Garden waste chipping & builder's rubble crushing
- Engineered waste disposal facilities
- Monitoring of waste disposal
- Formalising, controlling or eliminating informal salvaging
- Data compilation
- Projects for waste disposal facilities
- Vehicle replacement

A total of 26 targets were identified under the ten priority areas. A review of the implementation status of each of the 26 targets was undertaken to determine progress made with regard to waste management since the 2014 IWMP.

Projects have been classified as complete, in progress and incomplete. The timeframes for projects have not been considered, for example, if the deadline for a project was 2016 but it was only completed in 2017, it is still listed as complete.

**Table 15: Project Status**

Status	Description	No. projects	Percentage of projects
Complete	The target has been achieved	13	50
In progress	The implementation of a target is initiated/currently underway but not complete	7	26.9
Not commenced	No action has been taken to implement the target	6	23.1

**Table 16: Implementation status of the 2014 IWMP targets**

Actions recommended in the 2014 IWMP	Status	Comments
<b>1. Public Awareness and Education</b>		
1.1 George Municipality will continue to support the Eden District Wise up on Waste campaign which includes a road show visiting all municipalities of the Eden District	Complete	<p>GLM do their own awareness training at crèches, schools and within the community. GLM have a team of 4 staff that conduct awareness in various areas within George.</p> <p>GLM should look to raise future awareness of environmental issues on certain days of year, as there is already established programs online. The days that should be considered are:</p> <ol style="list-style-type: none"> <li>1. National Cleanliness Day, every January</li> <li>2. International Earth Hour, every April</li> <li>3. International Compost Awareness week, every May</li> <li>4. World Environment Day, every June</li> <li>5. World Oceans Day, every June</li> <li>6. International Coastal Clean-up Day, every September</li> <li>7. Clean-up and Recycle SA week, every September</li> </ol>
1.2 Informative flyers will be distributed and public talks conducted	Complete	The GLM has developed information flyers which cover topics such as recycling, waste collection days and illegal dumping, through their project office.
1.3 General advertising on billboards, waste bins and collection vehicles to promote recycling and waste minimisation. Constant exposure to these concepts to the public is very useful to awareness	Complete	Currently only two billboards with awareness messages are displayed within the GLM (specifically within George). Advertising and awareness has been put on the municipality's social media pages (the municipal website and Facebook page). GLM has indicated that refuse trucks cannot be branded with waste awareness messages due to internal policies.
<b>2. Quantifying Prevention</b>		
2.1 GLM will assess the possibility of using statistics and other data collected to quantify the success of prevention measures employed within the municipality. This will be done by populating an internal Waste Information System, for example an Excel spreadsheet database with relevant data. The Council will co-operate with the Waste Minimisation groups in efforts to quantify waste avoidance through the use of performance indicators and by other means.	Complete	The GLM currently reports on the IPWIS. The municipality has a weigh bridge at the current George transfer station which records waste coming into the site as well as waste going to the PetroSA Landfill site. Waste entering the George landfill site is recorded manually using the waste calculator system. There are no 2018 IPWIS records for waste entering the Uniondale landfill site, however an EPWP beneficiary has been stationed at the Uniondale landfill site record waste entering the site. Records will therefore be reported to the IPWIS going forwards. The GLM makes use of a service provider who collects recyclable waste in blue bags and garden waste in green waste bags from households within the municipality. The recycling records are sent monthly to the municipality.
<b>3. Post Collection Recovery</b>		
3.1 George Municipality will expand its existing transfer station and investigate to include a Material Recovery Facility. This will expand on the efforts by the private recyclers and ensure a further reduction in waste to landfill.	In Progress	The GLM are currently expanding the George transfer station to include a MRF, which will be completed in 2020. The GLM have developed and completed a transfer station adjacent to the Uniondale landfill site.
<b>4. Post Collection Recovery</b>		
4.1 George Municipality will establish a central composting facility.	In Progress	The GLM are currently developing a composting facility near the George transfer station. The access road to the composting facility has been constructed. Construction and demolition waste is being stockpiled for the facility foundation and green waste is being stockpiled outside the George landfill site.

Actions recommended in the 2014 IWMP	Status	Comments
		Budget has been allocated for the construction of the composting facility platform in 2019/2020.
<b>5. Engineered Waste Disposal Facilities</b>		
5.1 The disposal of non-recoverable waste will only be allowed at properly engineered waste disposal sites that is licensed by the relevant statutory authority and that are operated and audited in terms of the relevant permit conditions (more requirements under section 9).	In progress	The GLM disposes of domestic waste at the PetroSA landfill site and Uniondale landfill site, both of which are licensed. The GLM also operates the George (Gwaing) (green waste and builder's rubble) landfill, this site is also licensed. External audits are undertaken of the George landfill site. No external audits have been undertaken of the Uniondale landfill site. Neither of the operational landfill sites in GLM are engineered facilities, as these sites are licensed for closure it will not be possible to add engineered liners to the sites. Both landfill sites have been issued with closure permits and are in the process of being closed and rehabilitated by the GLM. Closure of the Uniondale landfill site is set to commence in September 2024 and closure of the site in George is set to close in in the 2019/2020 financial year. Once the regional site is operational GLM will make use of this site. The regional landfill site will be an engineered facility.
5.2 All closed and/or unlicensed waste sites are to be rehabilitated	In progress	Both landfill sites in GLM are licensed for closure. The closure licenses specify the date when rehabilitation must commence. Rehabilitation of Uniondale is set to commence in September 2019 and rehabilitation of George landfill must commence in November 2019. GLM has commenced with closure designs and appointment of contractors to assist with closure of the two sites.  Should the GLM not be able to meet the commencement dates as per the licenses an application for extension of the licenses must be submitted to DEA&DP.
<b>6. Monitoring of Waste Disposal</b>		
6.1 All waste destined for disposal and disposal facilities shall be monitored for compliance with permit conditions, volumes received and for environmental impact	Complete	All waste entering the George transfer site is inspected visually to determine the type of waste and the mass of the waste is recorded using a weighbridge. This information is then captured electronically and uploaded to the IPWIS. Recording of waste entering the Uniondale landfill site commenced in July 2019.  Waste entering the PetroSA landfill site from the GLM is recorded using a weighbridge. PetroSA provides GLM with monthly invoices for the volume of waste being disposed of at the landfill site.
<b>7. Formalising, Controlling or Eliminating Informal Salvaging</b>		
7.1 No informal salvaging was observed during the site visits in George Municipality. Since there is no evident problem, it can easily be prevented with the proper security measures. The Uniondale landfill poses a risk to informal salvagers, as a result of dug cells. The new extension of this site will need to have better gate control and security.	Not Commenced	Informal salvagers and pickers have created informal living areas on the George and Uniondale landfill sites. The George landfill has approximately 50 people living on the site.  The GLM has tried on several occasions to remove informal salvagers and pickers from the sites, but with no avail. The landfill site in George has access control, with a wire fence surrounding the site. The Uniondale landfill site, has no access control. The GLM has used law enforcement to help remove pickers from the George site, however pickers just return to site once law enforcement has left.  The relocation of informal scavengers from the landfill site to the MRF is planned for the 2019/20 financial year.

Actions recommended in the 2014 IWMP	Status	Comments
		This project is still deemed as applicable to the GLM and will be carried forwards in the 2020 implementation plan.
<p>7.2 Informal salvaging can be formalised and controlled for example by establishing a material recovery facility on the site where the need justifies such a solution. By doing this, the health and safety risk to the salvagers is addressed and the operations on the landfill will be improved. This is not job creation in essence, but creates a far better work environment and quality of life of these individuals.</p>	Not Commenced	<p>The GLM has tried on to remove informal salvagers and pickers from the sites, but with no avail. The GLM have also tried to formalise the salvaging at the landfill sites through the employment and recycling programmes, but to no avail. GLM are in the process of trying to formalise the MRF and are currently trying to give informal salvagers a chance to be identified as the correct individuals for the process.</p> <p>The relocation of informal scavengers from the landfill site to the MRF is planned for the 2019/20 financial year.</p> <p>This project is still deemed as applicable to the GLM and will be carried forwards in the 2019 implementation plan.</p>
<b>8. Data Compilation</b>		
<p>8.1 The GLM will continue to gather accurate data regarding domestic, commercial and industrial waste generation and collection. The municipality will endeavour to aggregate the same collection from each town for analysis.</p> <p>These procedures will include:</p> <ul style="list-style-type: none"> <li>• Details of direct and indirect costs</li> <li>• Number of tonnes collected</li> <li>• Number of bin lifts</li> <li>• Number of properties serviced</li> <li>• Number of outdoor staff</li> </ul> <p>The following performance indicators will then be produced annually</p> <ul style="list-style-type: none"> <li>• Average cost per ton collected</li> <li>• Average cost per employee</li> <li>• Average cost per property serviced</li> <li>• Cost per bin lift</li> <li>• Tonnage collected per property</li> <li>• Tonnage collected from employee</li> <li>• Number of properties serviced per employee</li> </ul> <p>This will tie up with the Waste Information System.</p>	In progress	<p>The GLM collects data on:</p> <ul style="list-style-type: none"> <li>• Tonnes of general waste collected from households and businesses within the municipal area</li> <li>• Tonnes of waste disposed of at PetroSA landfill site</li> <li>• Tonnes of waste disposed of at George landfill sites</li> <li>• Tonnes of waste reclaimed for recycling</li> <li>• Number of household and businesses which are serviced</li> <li>• Type of service provided to each business (i.e. number of waste or skip bins/loads to be collected)</li> <li>• Number of outdoor staff</li> </ul> <p>GLM does not have any data on the amount of waste is produced by large companies and industries in the municipality, as these companies and industries make use of private waste removal. This is due to the GLM not having a large enough waste removal fleet to manage the growing population.</p> <p>The GLM has not yet undertaken a full cost accounting exercise to determine the actual cost of provision of a waste management service. Once this exercise is complete it will be easier to calculate the average cost per tonnes of waste collected amongst other indicators.</p> <p>An average cost exercise for waste collection the George municipality was done for households and businesses in 2017 by Province, but nothing formal has come from the exercise. The municipality increased tariffs by 15% in 2018, but for 2019 there will only be a 9% increase.</p> <p>GLM does not have any separate data on the amount of waste is produced by large companies and industries in the municipality, as these companies and industries make use of private waste removal. This is</p>

Actions recommended in the 2014 IWMP	Status	Comments
		due to the GLM not having a large enough waste removal fleet to manage the growing population. The GRDM waste information system (GRWIS) will collect information from private waste generators. If the GLM supports the implementation of this programme then this will go some of the way in addressing gaps in knowledge regarding waste generated by business and industry.
<b>9. Projects for Waste Disposal Facilities</b>		
<b>9.1 Uniondale (22 800m<sup>2</sup>) (G:C:B – landfill)</b>		
9.1.1 Install a weighbridge.	Not Commenced	There is no weighbridge at the Uniondale landfill site. A transfer station has been developed at the site. When the Uniondale landfill site closes waste collected in Uniondale, will be taken to the transfer station and thereafter transported to George where it will be weighed and disposed of. GLM will get use service provider to collect and transport all the waste from Uniondale to George.  A weighbridge has not been installed at the Uniondale landfill site due to a lack of budget. As the Uniondale landfill site is closing the installation of a weighbridge at the landfill site is not deemed to be necessary.
9.1.2 Waste Characterisation	Complete	A waste characterisation for GLM was undertaken in August 2018.
9.1.3 Conduct external audits.	Not Commenced	GLM have indicated that there has not been any external audit conducted for the site, this was due to budget constraints. GLM plan to conduct external audits in the 2019/2020 financial year.  DEA&DP has undertaken audits of the GLM waste facilities. The audits are typically undertaken annually.  The requirement for external audit of all waste facilities is a legal requirement in terms of the waste management license sans so this project will be carried through into the 2019 IWMP implementation plan.
9.1.4 Obtain Closure License	Complete	The Uniondale landfill site has been issued with a closure license.
9.1.5 Rehabilitation of existing footprint	Not Commenced	No rehabilitation of the Uniondale landfill site has yet commenced. Rehabilitation was set to commence in September 2019, but an extension was granted (September 2019) for commencement to only occur in September 2024  This project is still necessary and the on-going rehabilitation of the landfill site will be carried forward into the 2019 IWMP implementation plan.
9.1.6 Develop new site Phase 1 [adjacent to existing (now closed and rehabilitated) Uniondale landfill site] (2015 - 2016)	Complete	The GLM have developed a transfer station at the Uniondale site.
9.1.7 Develop new site Phase 2 (2017 – 2018)	Complete	The GLM have developed a transfer station at the Uniondale site. GLM had a budget of R1 million set as the maximum budgetary limit. Therefore the design for the transfer station was stripped down to the bare minimum to provide only the basic essentials for the transfer station to function.
<b>9.2 Gwaing Garden Waste &amp; Builder's Rubble</b>		
9.2.1 Obtain Closure License	Complete	A closure license (DEA&DP ref: 19/2/5/1/D2/19/WL0085/14) has been obtained.
9.2.2 Rehabilitation Phase 1 (2015 – 2016)	In progress	Phase 1 rehabilitation (critical slope and compaction test) was planned to commence in April/May 2019, but will now occur in the 2019/2020 financial year. A service provider has been appointed to commence



Actions recommended in the 2014 IWMP	Status	Comments
		with Phase 1 of the closure of the landfill.
9.2.3 Rehabilitation Phase 2 (2016 – 2017)	<b>Not Commenced</b>	<p>Phase 2 has not yet commenced, this was due to the delay in obtaining funds. Phase 2 rehabilitation is planned to commence in October 2019 and be completed within 2020, with the financial backing for the 2019/2020 municipal financial plan.</p> <p>This project is still necessary and the on-going rehabilitation of the landfill site will be carried forward into the 2019 IWMP implementation plan.</p>
<b>10. New Gwaing Composting &amp; Builder's Rubble Crushing Facility</b>		
10.1 Design, Construct & Operate (2014 – 2015)	<b>In progress</b>	The GLM have designed a composting facility and are currently stockpiling builder's which will be used to construct the platform. The GLM plan to have a composting and builders rubble crushing facility at one site. No chipping will be done on-site; the GLM will make use of the regional chipper when it comes to site.
<b>11. Transfer Station</b>		
<b>11.1 George</b>		
11.1.1 Expansion of existing facility	<b>Complete</b>	The GLM are in the process of upgrading the George transfer station to include a MRF, which will be operated by the municipality. The construction works started in February 2019, the MRF building is complete but equipment has not yet been installed.
<b>11.2 George</b>		
11.2.1 Waste Characterisation	<b>Complete</b>	A waste characterisation for GLM was undertaken in August 2018.
<b>12. Vehicle Replacement</b>		
12.1 Evaluate which waste collection vehicles need to be replaced and replace these as the need arises. Recommended in IWMP that all vehicles older than 8 years to be replaced.	<b>Complete</b>	The GLM aims to replace two (2) waste collection vehicles a year; this has been an initiative since 2014. The GLM currently have 6 waste collection vehicles and are in the process of obtaining another two (2) more in 2019.

## 4.2 Progress towards Compliance with National Waste Management Strategy Goals

A review of the progress in the GLM with regards to the implementation of the 2011 NWMS goals and targets was undertaken as part of the IWMP. Where information was available, an assessment of the compliance with each of the targets was undertaken and documented.

**Table 17: National Waste Management Strategy Objectives**

Goal	Targets for 2016	Progress to compliance with targets
1. Promote waste minimisation, re-use, recycling and recovery of waste.	25% of recyclables diverted from landfill sites for re-use, recycling or recovery.	Based on records received from IPWIS and recycling companies 20% of waste is reclaimed for recycling.
	All metropolitan municipalities, secondary municipalities, and large towns have initiated separation at source programmes	A separation at source programme has been initiated in urban areas of the GLM. The GLM make use of blue and green bags for recyclable and green waste respectively to help reduce waste going to landfill. Currently about 70% of households in suburbs covered by the programme participate in separation at source.
	Achievement of waste reduction and recycling targets as set in industry waste management plans (indWMPs) for paper and packaging, pesticides, lighting (CFLs) and tyre industries	The indWMPs for the paper and packaging industry, e-waste, lighting and tyre industries have been submitted to DEFF for adjudication. All of the tyre indWMP have been rejected by DEFF
2. Ensure the effective and efficient delivery of waste services.	<ul style="list-style-type: none"> <li>95% of urban households and 75% of rural households have access to adequate levels of waste collection services.</li> <li>80% of waste disposal sites have permits.</li> </ul>	<ul style="list-style-type: none"> <li>97.8% of households have access to a basic refuse removal service (kerbside collection or a communal collection point).</li> <li>All of the operational waste disposal sites in the GLM have valid permits.</li> </ul>
3. Grow the contribution of the waste sector to the green economy	<ul style="list-style-type: none"> <li>69,000 new jobs created in the waste sector.</li> <li>2,600 additional SMEs and cooperatives participating in waste service delivery and recycling</li> </ul>	<ul style="list-style-type: none"> <li>This is a national target. Nationally 29,833 people employed in the formal waste sector in 2012 (CSIR, 2012).</li> <li>GLM currently employ 112 people in the formal waste sector, with 346 vacancies within the GLM. An additional 20 people are employed in through a private service provider to manage the municipal separation at source programme. The GLM waste management employment contributes 0.19% of the national total. If all the vacancies were filled this would increase to 1% of the national target.</li> </ul>
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	<ul style="list-style-type: none"> <li>80% of municipalities running local awareness campaigns</li> <li>80% of schools implementing waste awareness campaigns</li> </ul>	<ul style="list-style-type: none"> <li>The GLM have 4 dedicated staff who do awareness raising within the municipality. Training and awareness is done mainly within schools within the GLM and the community.</li> </ul>

Goal	Targets for 2016	Progress to compliance with targets
5. Achieve integrated waste management planning.	<ul style="list-style-type: none"> <li>All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs</li> <li>All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS</li> </ul>	<ul style="list-style-type: none"> <li>The GLM integrated the implementation plan of the 2014 IWMP with the IDP and has met nearly 35% of the targets in the 2014 IWMP, a further 42% of targets are underway.</li> <li>Waste Disposal Data for the George landfill site is reported on the IPWIS. At present no data is recorded or reported for the Uniondale landfill site.</li> </ul>
6. Ensure sound budgeting and financial management for waste services	<ul style="list-style-type: none"> <li>All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs</li> </ul>	The GLM has not yet undertaken a full cost accounting- exercise to determine the true cost of waste management services.
7. Provide measures to remediate contaminated land.	<ul style="list-style-type: none"> <li>Assessment complete for 80% of sites reported to the contaminated land register</li> <li>Remediation plans approved for 50% of confirmed contaminated sites.</li> </ul>	The GLM has undertaken closure applications for all landfill sites. The licenses of Uniondale and George (Gwaing) landfill sites require closure to commence in 2024.
8. Establish effective compliance with and enforcement of the Waste Act	<ul style="list-style-type: none"> <li>50% increase in the number of successful enforcement actions against non-compliant activities.</li> <li>800 environmental management inspectors (EMIs) appointed in the three spheres of government to enforce the Waste Act</li> </ul>	<ul style="list-style-type: none"> <li>There are four EMI's in the GLM.</li> <li>No enforcement actions have been undertaken.</li> </ul>

The table above assess GLM's compliance with the overarching goals of the NWMS. The 2011 NWMS also has an action plan. Projects which are applicable to the GLM are shown below

**Table 18: Progress towards compliance with NWMS action plan**

Goal	Targets for 2016	Progress to compliance with targets
1. Promote waste minimisation, re-use, recycling and recovery of waste.	Roll out buy-back centres in identified municipalities including identification of partnership and funding opportunities.	The GLM currently does not have any buy-back centres within the municipality.
2. Ensure the effective and efficient delivery of waste services.	Develop a household strategy to address the contamination of general and household waste (responsibility DEA and municipalities)	The GLM has not developed a strategy to manage household hazardous waste (HHW). DEA&DP is, however in the process of developing a Management Guideline. Local municipalities are encouraged to use this guideline in order to formulate HHW management strategies, specific to their municipal dynamics.
	Gazette, implement and monitor the National Policy for the Provision of Basic Refuse Removal Services to indigent households (responsibility DEFF, municipalities, DCOG, SALGA)	The GLM monitors and tracks the provision of services to indigent households within the municipal boundary.

Goal	Targets for 2016	Progress to compliance with targets
	Implement and monitor the National Domestic Waste Collection Standards (responsibility DEFF, municipalities, DCOG, SALGA)	The GLM monitors and tracks the provision of waste management services to households.
	Adopt/ adapt generic by-laws for the separation, compacting and storage of solid waste, the management of solid waste and the control of litter.	The GLM have by-laws titled Solid Waste Disposal By-Law which was gazetted in 2010.
3. Grow the contribution of the waste sector to the green economy	As part of Green Economy Strategy, implement measures to support job creation within waste services collection	The GLM uses a private service provider for the collection of recycling material in urban areas. GLM is in the process of developing a MRF at the George transfer station which will create additional jobs.
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	80% of municipalities running local waste awareness campaigns	The GLM has 4 staff that undertake waste awareness campaigns. 20 waste awareness programmes were undertaken over the last 12 months.
5. Achieve integrated waste management planning.	Prepare municipal IWMPs, including indicators and targets, and integrate with municipal IDPs.	This is the third generation IWMP for the GLM. It is the intention that this report will be integrated with the IDP.
	Municipal capacity available to sustainably provide waste management service and to proactively plan and manage landfill disposal. The George landfill site could use additional staff on-site to help manage waste coming into the site. A guard house and access control need to be put in place to help minimise the pickers on-site.	There are sufficient staff within the waste department of the GLM to provide an adequate waste collection service. However, to expand the waste collection service by employing more foreman, handy-man, drivers, and general and refuge assistants. This improving the management of landfill sites or transfer stations and refuge collection within GLM.
6. Ensure sound budgeting and financial management for waste services	Full cost accounting of waste management services is conducted by all municipalities	The GLM has not yet undertaken a full cost accounting exercise for waste management.
	Phase in tariffs to reflect full cost of waste services	The GLM reviews tariffs annually, but no full cost accounting exercise has been undertaken to confirm if the tariffs charged as cost reflective.
8. Establish effective compliance with and enforcement of the Waste Act	Train and designate additional EMIs (DEFF, Provinces, Municipalities)	There are four EMI's in the GLM. No enforcement actions have been undertaken.

## 5 Receiving Environment

## 5.1 Biodiversity

The 2017 Western Cape Biodiversity Sector Plan for GLM identifies nineteen (19) protected areas in the GLM. The GLM covers four biomes, in order of land coverage these are, Fynbos, Succulent Karoo, Albany thicket and Forest.

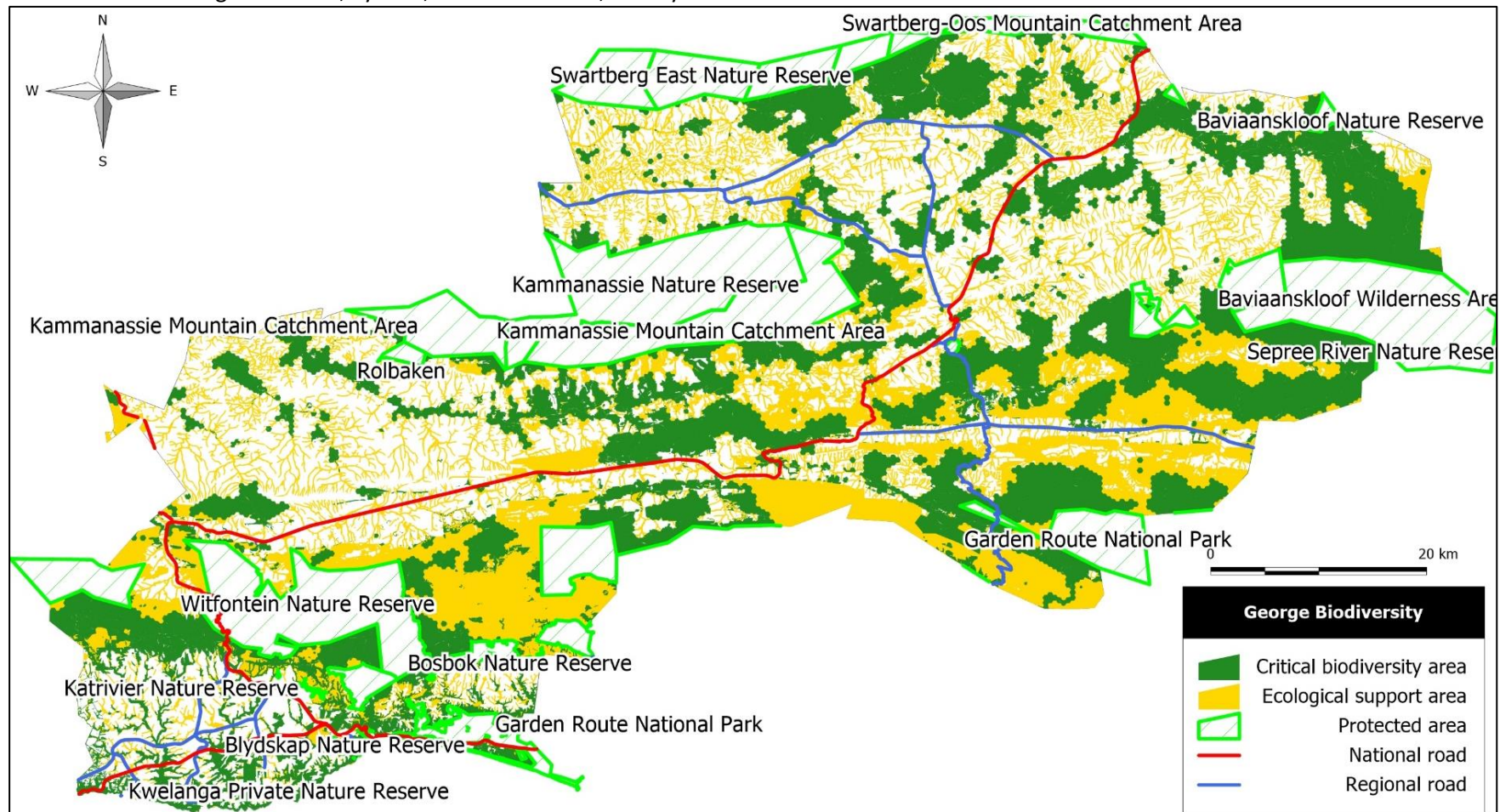
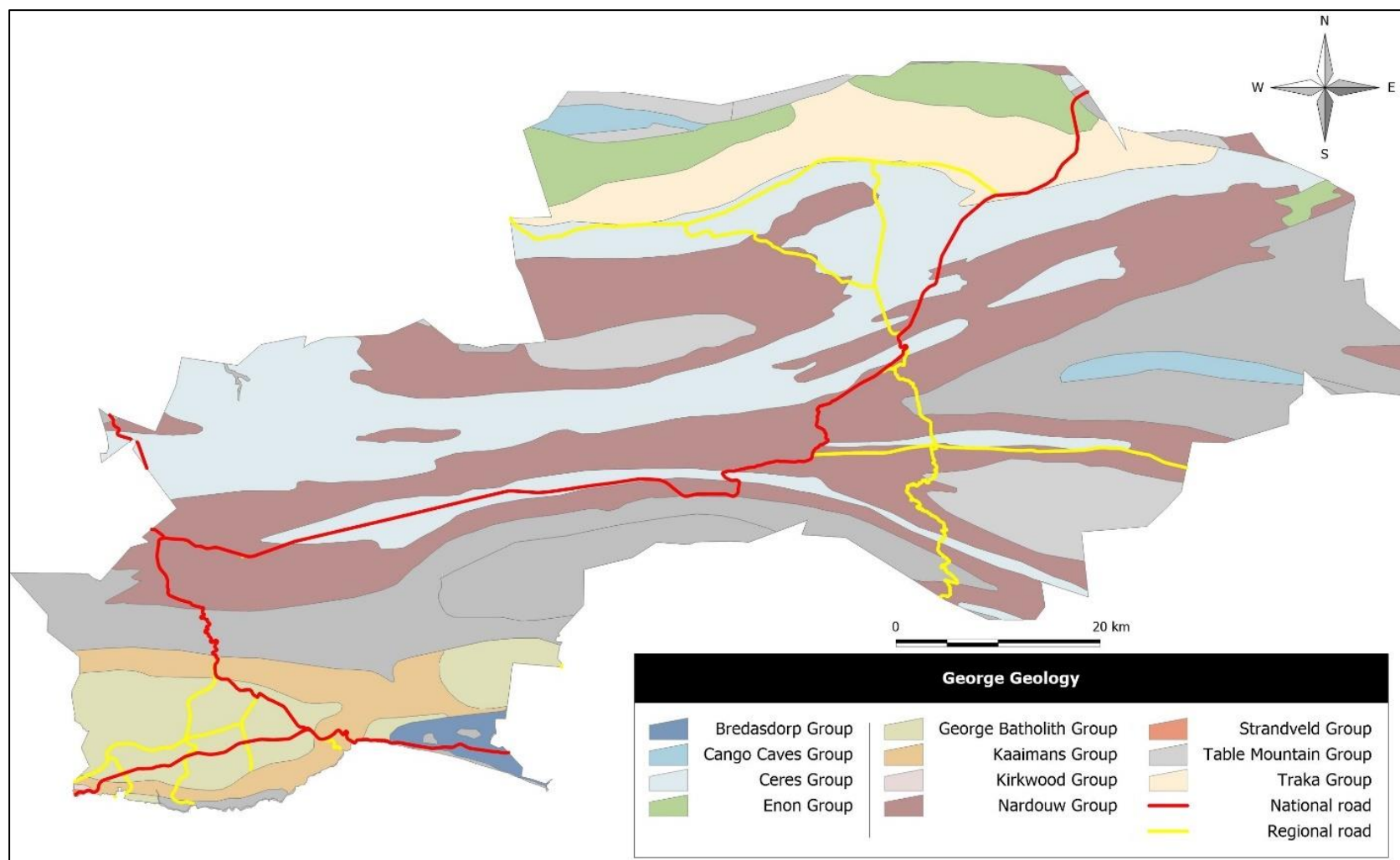


Figure 5: George Local Municipality Biodiversity source 2017 WCBSP George [Vector] 2017. Available from the Biodiversity GIS website, downloaded on 16 May 2019 (WCBSP = Western Cape Biodiversity Spatial Plan) <http://bgis.sanbi.org/SpatialDataset/Detail/627>



### 5.1.1 Geology



**Figure 6: George Local Municipality Geology**

Eleven different geological formations occur in the GLM. The George Batholith group and Kaaaimans group are the domination formations in the coastal region and Nardow, Ceres and Table Mountain Groups are the dominant formations in the mid and northern section of GLM.

## 5.2 Water Resources

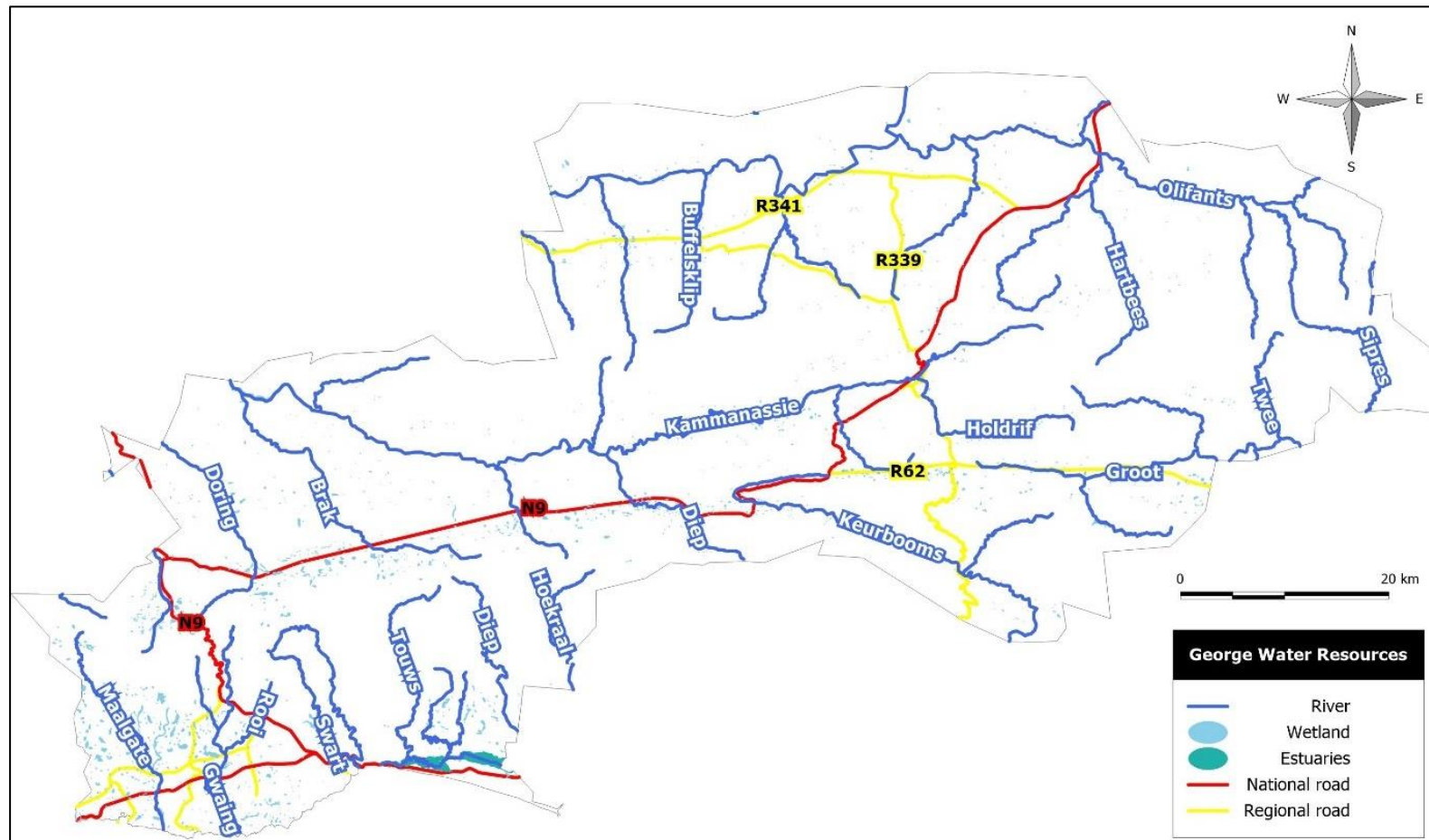


Figure 7: George Local Municipality Water Resources, data source Council for Scientific and Industrial Research. NFEPA wetlands 2011 [vector geospatial dataset] 2011. Available from the Biodiversity GIS website, downloaded on 16 May 2019, Council for Scientific and Industrial Research. NFEPA rivers 2011 [vector geospatial dataset] 2011. Available from the Biodiversity GIS website, downloaded on 16 May 2019

The major rivers in the GLM are the Kammanassie, Keurbooms and Olifants. There are four estuaries along the GLM coastline, the largest is the Touws River estuary.

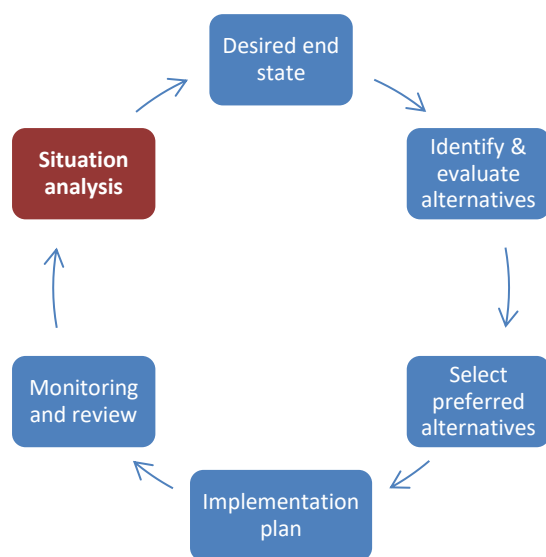
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## 6 *Situation Analysis*

### 6.1 Scope and Purpose of the Situation Analysis

The situation analysis is the first step of any IWMP (Refer to **Figure 8**). It is important to note that the situation analysis is a snap shot of the current status of waste management. Due to changes in legislation and on-going operational changes, the situation analysis is constantly evolving. A detailed review of the situation analysis is therefore required at least in line with the five year review of the IWMP.

The situation analysis addresses all aspects of waste management from waste infrastructure to institutional capacity and funding of waste management services.



**Figure 8: IWMP planning phases – situation analysis**



## 6.2 Overview of George Municipal Area

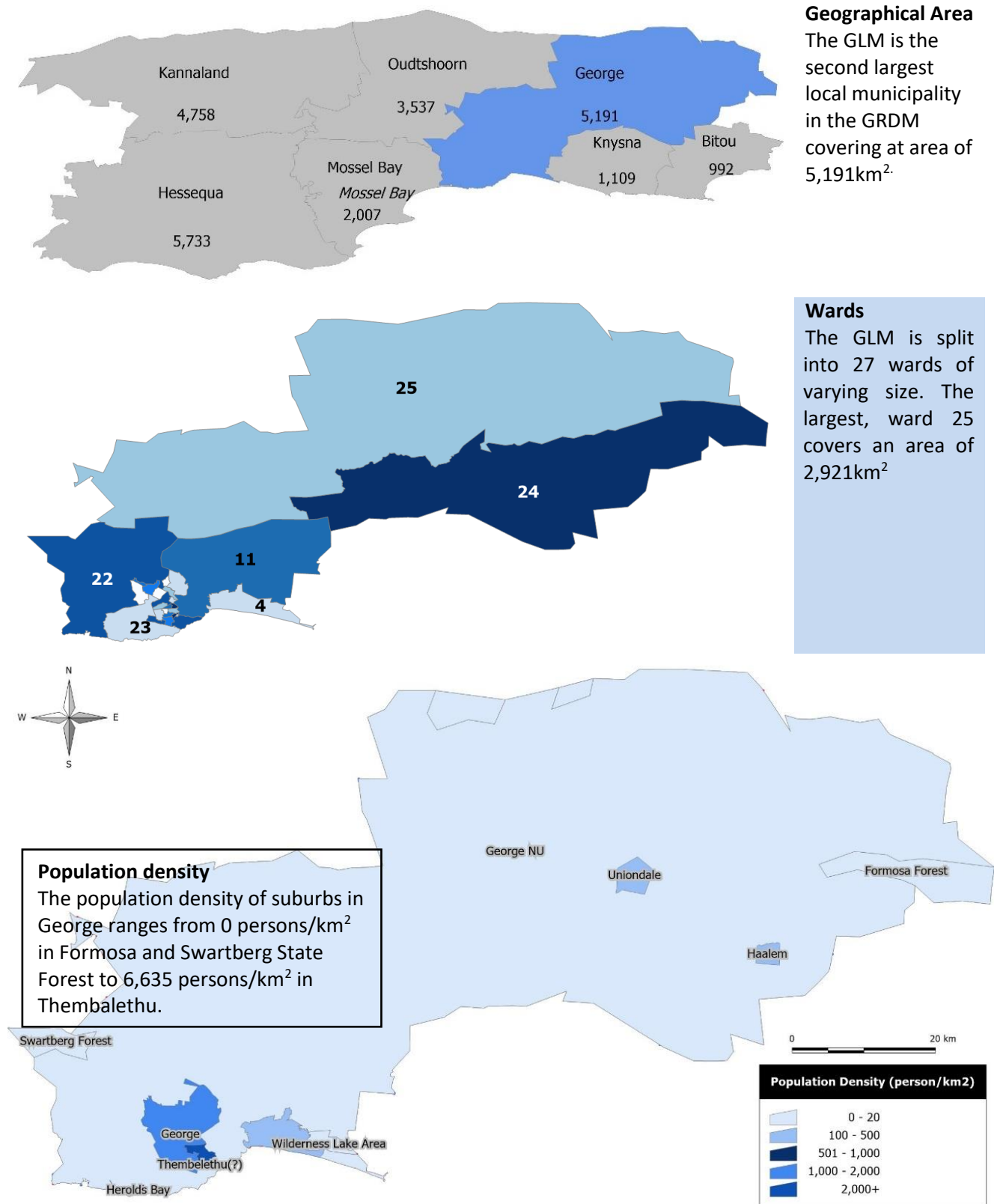


Figure 9: Population density of the George jurisdictional area

## 6.3 Demographics

Data presented in the following section has been sourced from the Provincial Profile of the Western Cape which was prepared by Stats SA based on the results of the Census 2011, 2016 Community Survey and the Draft Integrated Development Plan (IDP) 2019/2020. All data presented below is from the Community Survey 2016, unless specified.

### Population (Census 2011, Community Survey 2016, IDP 2019/2020)

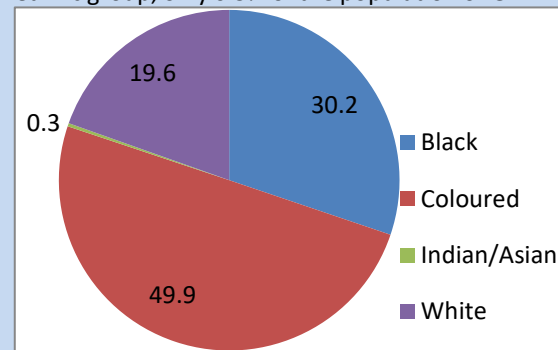
The population growth of the GLM between 2011, 2016 and 2019 (increase of 7.5%) was ahead of the GRDM average of 6.4%.

**Table 19: Population profile**

Municipality	Population			
	Census 2011	CS, 2016	IDP, 2019	% changes 2016 to 2019
George	193,672	208,237	217,054	4.1
Oudtshoorn	95,933	97,509	100,246	2.7
Mossel Bay	89,430	94,135	97,979	3.9
Knysna	68,659	73,835	77,210	4.4
Bitou	49,162	59,157	62,369	5.1
Hessequa	52,642	54,237	56,212	3.5
Kannaland	24,767	24,168	24,530	1.5
Garden Route DM	574,265	611,278	635,600	3.8

### Ethnic Profile (Community Survey 2016)

The majority of the population in the GLM are Coloured (42.6%). Indian/ Asian are the smallest ethnic group, only 0.5% of the population of GLM.



**Figure 10: Ethic profile**

### Language (Census 2011)

All of South Africa's national languages are represented in GLM. Afrikaans is the most common home language (65.7%) in GLM followed by IsiXhosa (21.2%).

**Table 20: Language profile**

Language	Percentage of population
Afrikaans	65.7%
English	7.9%
IsiNdebele	0.2%
IsiXhosa	21.2%
IsiZulu	0.3%
Sepedi	0.1%
Sesotho	0.5%
Setswana	0.4%
Sign language	0.4%
SiSwati	0.0%
Tshivenda	0.1%
Xitsonga	0.1%
Other	0.9%
Not applicable	2.3%

### Households (Community Survey 2016)

On average, the number of people per household in the GLM is 3.3. The number of houses in GLM increased from 53,549 in 2011 to 62,722 in 2016.

**Table 21: Household profile**

Municipality	Census 2011		CS, 2016	
	No. households	Ave. Size	No. house holds	Ave. Size
OLM	21,910	4.4	23,362	4.2
GLM	53,549	3.6	62,722	3.3
BLM	16,645	3.0	21,914	2.7
MBLM	28,023	3.2	31,766	3.0
HLM	15,873	3.3	17,371	3.1
KLLM	6,210	4.0	6,333	3.8
KLM	21,893	3.1	25,877	2.9
GRDM	164,103	3.5	189,345	3.3

### Education

**Table 22: Education profile**

Schooling level	% of population
No schooling	2.9
Incomplete primary school	10.6
Primary school	4.9
Incomplete secondary school	34.8
Secondary school	36.5
Higher	10.2
<b>Total</b>	<b>100.0</b>

Only 10.2% of the population of GLM has a higher education and 10.6% of the population have not completed primary level education.

## 6.4 Type of Housing and Access to Services

Data presented in the following section has been sourced from the Provincial Profile of the Western Cape which was prepared by Stats SA based on the results of the 2016 Community Survey.

### Type of Dwelling

The majority of residences in GLM are formal dwelling (83.9%), 0.8% of dwelling are traditional dwelling and 14.8% are informal dwellings.

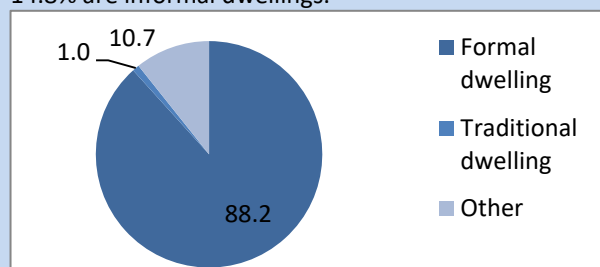


Figure 11: Houses by type of dwelling

### Toilet Facilities

The majority of the population of GLM have flush toilets which are connected to a municipal sewer system or conservancy/ septic tank.

Table 23: Access to toilet facilities

Type	No. households	% of households
Flush toilet	59296	94.5%
Chemical toilet	542	0.9%
Pit latrine/ toilet	617	1.0%
Bucket toilet	1572	2.5%
Other	303	0.5%
No toilet facilities	392	0.6%
<b>Total</b>	<b>62,722</b>	<b>100%</b>

### Access to Electricity

The majority of households in GLM have access to electricity which is used for cooking, light, water heating and space heating.

Table 24: Type of energy used for different household activities

Activity	Energy source used			Total
	Electricity	Other	None	
Cooking	89.5%	10.1%	0.4%	100%
Lighting	97.8%	2.0%	0.2%	100%
Water heating	93.3%	4.4%	2.3%	100%
Space heating	67.6%	10.7%	21.7%	100%

### Access to Refuse Removal Services

Table 25: Households access to refuse services

Service	Percentage of households
Removed weekly	93.3%
Removed less often	4.0%
Communal refuse dump	0.4%
Communal container	0.2%
Own refuse	1.7%
No refuse disposal	0.0%
Other	0.5%

### RDP/ Government Subsidised Dwelling

A significant portion of households in GLM are either RDP or government subsidised (33.6%).

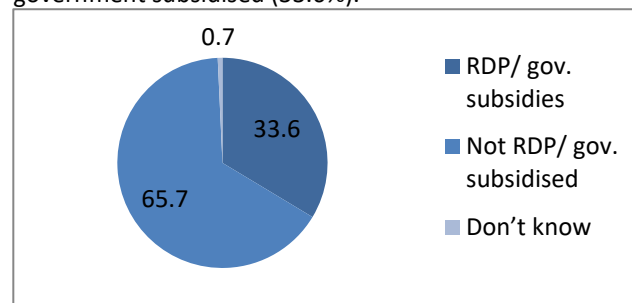


Figure 12: RDP/ government subsidy status of households

### Access to Safe Drinking Water

The majority of households in GLM (92.9%) have access to safe drinking water. This is in line with the Western Cape average which is also 93%. 4,432 households (7.1%) do not have access to safe drinking water.

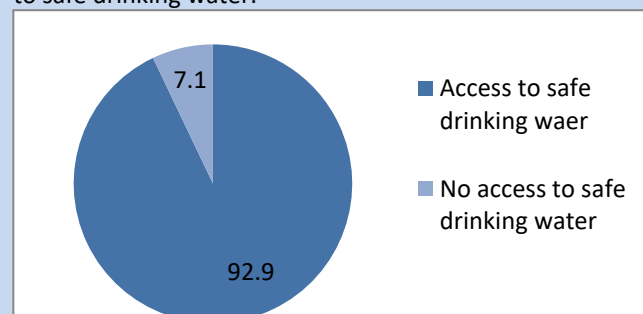


Figure 13: Access to safe drinking water

### Access to Internet

Only 14.3% of household have access to the internet.

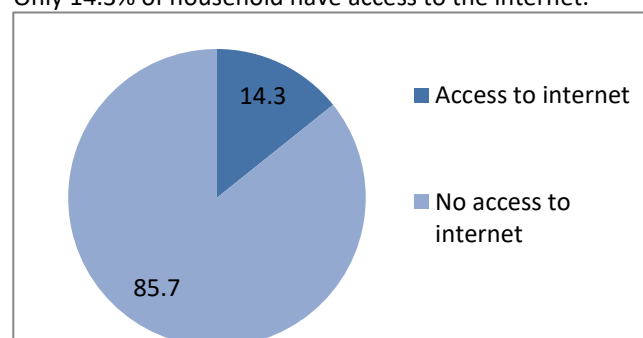


Figure 14: Access of households to the internet

The majority of households in GLM have access to kerbside collection service for refuse. A total of 14,413 (26.9%) households are registered as indigent in GLM (source: GLM 2019 IDP).

## 6.5 Local Economy

### Employment (in those aged 15 – 64)

48.4% of the population in the age bracket 15 – 64 are employed, 12.6% are unemployed and 3.9% are discouraged work seekers. The remaining 35.0% are not economically active.

**Table 26: Employment status is those aged 15 – 64 (Census 2011)**

Employment Status	No.	%
Employed	63,110	48.4%
Unemployed	16,434	12.6%
Discouraged work seeker	5,140	3.9%
Not economically active	45,664	35.0%
<b>Total</b>	<b>130,348</b>	<b>100.0%</b>

### Household Income

**Table 27: Average household income (Census 2011)**

Average Household Income	% of households
No income	12%
R1 - R,4800	3%
R 4,801 - R 9,600	4%
R9,601 - R19,600	13%
R19,601 - R38,200	19%
R38,201 - R76,400	17%
R76,401 - R153,800	13%
R153,801 - R307,600	10%
R307,601 - R614,400	6%
R614,001 - R1,228,800	2%
R1,228,801 - R2,457,600	1%
R2,457,601+	0%
<b>Total</b>	<b>100</b>

### 6.5.1 Gross Domestic Product

The economic performance of the GLM in terms of gross domestic product per region has declined year on year since 2011. In 2016 GLM contributed R 15.9 billion to the economy of the GRDM.

Contributors to the local Gross Domestic Product per Region (GDPR):

- 71.6%: Tertiary sector - wholesale and retail trade, catering, accommodation, transport storage, communication, finance, insurance, real estate, business services, general government, community, social and personal services which makes up 71.6% of total GDPR.
- 24.1% Secondary sector - manufacturing, electricity, gas, water and construction
- 4.3% Primary Sector - agriculture, forestry and fishing.

**Table 28: GDPR growth per municipality in the Garden Route Municipalities 2007 - 2017 (data source, Western Cape Provincial Treasury, 2018a)**

Municipality	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017e
Kannaland	5.9%	9.2%	-1.4%	1.1%	2.8%	2.5%	2.9%	3.6%	1.1%	0.2%	2.3%
Hessequa	6.4%	6.8%	-0.6%	1.3%	3.3%	2.8%	3.1%	3.1%	1.2%	0.3%	1.8%
<b>George</b>	<b>7.2%</b>	<b>5.1%</b>	<b>-0.3%</b>	<b>2.6%</b>	<b>4.3%</b>	<b>3.4%</b>	<b>3.1%</b>	<b>2.9%</b>	<b>2.1%</b>	<b>1.7%</b>	<b>1.4%</b>
Oudtshoorn	6.4%	5.4%	-0.4%	2.3%	3.5%	2.9%	3.3%	2.8%	1.3%	0.9%	1.3%
Mossel Bay	6.0%	3.4%	-0.6%	2.0%	4.1%	3.1%	2.4%	2.1%	1.1%	1.1%	0.9%
Bitou	6.5%	4.5%	0.1%	2.2%	3.4%	2.9%	2.9%	2.5%	1.4%	1.3%	0.9%
Knysna	5.7%	3.4%	-0.4%	1.1%	2.2%	1.9%	2.0%	1.9%	0.9%	0.8%	-0.2%
Garden Route DM	6.4%	4.1%	-1.3%	2.3%	3.8%	2.9%	2.6%	2.4%	1.5%	1.2%	1.0%

*Note: 2017 figures are based on estimates*

## 6.6 Waste Profile

### 6.6.1 Domestic Waste Profile

A waste characterisation exercise was undertaken by the Eden District Municipality (now GRDM) in 2015. The aim of the study was to determine the profile of domestic waste which was being disposed of to landfill.

During the waste characterisation exercise 1,181 bags (4.84 tonnes) of waste were collected from 1,050 households within 52 different suburbs. Waste was sorted into 15 categories. The results of the waste characterisation are presented below.

**Table 29: Waste profile for GLM (source: Garden Route Municipality, 2018)**

Waste type	Mass (kg)	Percentage of total mass (%)	Calculated volume (m <sup>3</sup> )	Percentage of total volume (%)
Soft plastics	395.56	8.16	2.54	12.91
Hard plastics	368.20	7.60	5.11	26.04
Paper	254.77	5.26	1.12	5.69
Cardboard	353.29	7.29	2.72	13.84
Glass	355.37	7.33	0.87	4.40
Metal	128.84	2.66	0.40	2.05
Food waste	1196.71	24.69	1.16	5.92
Garden waste	640.05	13.21	1.44	7.32
Textiles	222.73	4.60	0.76	3.89
Wood	92.10	1.90	0.59	3.00
Inert	81.35	1.68	0.08	0.39
Nappies	388.85	8.02	1.71	8.72
E-waste	15.05	0.31	0.13	0.64
Hazardous	29.25	0.60	0.08	0.43
Rest	324.58	6.70	0.93	4.75
<b>Total</b>	<b>4846.7</b>	<b>100</b>	<b>19.639</b>	<b>100.00</b>

**NOTE:** The data presented in Table 29 shows the mass of waste and calculated volume (uncompacted). The actual volume of space taken up by the waste in a landfill site will vary depending on how the landfill site is managed. Waste in landfill sites with formal compaction will take up less airspace than those with no plant in operation. Considerations also needs to be given to whether garden waste is chipped (airspace saving) and whether cover material is applied, which will consume space.

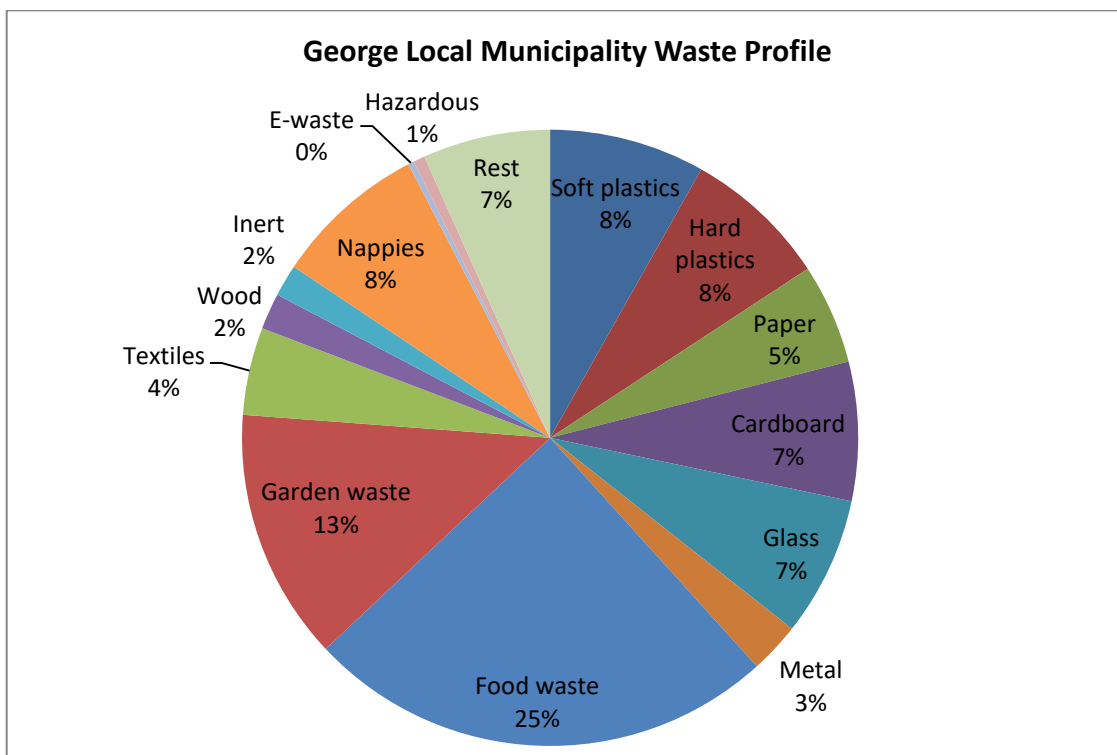


Figure 15: George Waste Profile (source: Eden District Municipality, 2016)

The following were noted from the results of the 2018 waste characterisation:

- By volume, 38.3% of the waste stream is composed of mainstream recyclables (paper, plastic, cardboard, glass and metal)
- Nappies composed of 388.8kg which is 8.0% of the waste stream by mass 4,846.7kg.

### 6.6.2 Hazardous, Business and Industry Waste Profile

It has been identified that there is a lack of information available on hazardous waste generation in the GLM. A survey of business and industry was undertaken to determine the types and composition of waste generated by industry in the GLM. Where information was lacking, a literature review, feedback from business and industry in other local municipalities in the GRDM and experience of the project team was used to determine the waste profile of different industries.

#### (a) Abattoir Waste

There are at least two abattoirs operating in GLM. Waste from abattoir consists of blood, paunch content, offcuts, manure, condemned carcasses, feathers, fats, organs such as intestines. Waste surveys were submitted to both of the abattoir and meeting were also requested with both abattoir. No information has been received to date. The abattoirs were called and emailed on numerous occasions, but with no avail.

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The Western Cape mini guide to the management of abattoir waste provides guidance on management practices for abattoir waste. Management methods vary depending on the type of abattoir waste being managed. No abattoir waste is accepted at any of the landfill sites within GLM.

(b) Saw Mills

There are five sawmills within the George Municipality. During the GLM the situational analysis review Two large and one small operational sawmill were surveyed. The majority of general waste generated by sawmills is bark, wood chips, saw dust and offcuts. Nurseries often use bark from saw mills and wood chips can be composted. Saw dust is used by chicken farms and other agricultural activities. Offcuts are sometimes collected on an informal basis by local residents for use as fuel. Small volumes of metal waste is generated, typically from band saw blades which are damaged or worn out.

Hazardous waste generated by saw mills includes used oil and oil-contaminated rags from maintenance of equipment, and cutting oils from maintenance of bandsaw blades. Used oil can be sold to oil recycling companies. Chromium copper arsenate (CCA) is used for the treatment of timber. Waste from the CCA treatment process is a CCA sludge and CCA contaminated waste. After treatment minimal dripping of CCA from the timber is expected, but any substrate or material which comes into contact with CCA would be hazardous waste. CCA sludge and CCA contaminated waste is sent to a hazardous waste management facility in Port Elizabeth or Cape Town.

(c) Furniture Manufacture

Companies which manufacture furniture have a similar general waste profile to saw mills, but furniture manufacture companies typically use pre-treated wood so they do not generally generate CCA waste. Furniture manufacturing facilities will generate paint and varnish cans, which, depending on the type of paint, can be considered as hazardous. Metal cans can be sold to scrap metal recyclers.

(d) Automotive Industry

There are numerous mechanics, panel beaters and vehicle repair shops in the GLM. Hazardous waste typically generated by these industries includes used oil filters, used oil, oil contaminated rags. During the GLM the situational analysis review a few automotive garages were surveyed.

A concern was raised by a hazardous waste management company in the GLM that although they receive used oil, they rarely receive oil filters. It was noted that during the situation analysis survey, that these automotive garages make use of a company that removes all their used oil, oil filters and oily rags. It was also noted that these panel beaters and vehicle repair shops tie into the municipal sewer system, thus releasing the wash bay sludge into the

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municipal system. A significant number of oil filters are expected to be generated in GLM through servicing of vehicles.

Panel beaters generate thinners, used paint cans, and soiled rags.

(e) Food Waste

There are three food manufactures within George, during the situation analysis one large food manufacture in the GLM was noted during the situation analysis. All hazardous waste from laboratory in the food industry, gets collected by a service provider who takes the to the Vissershoek landfill site for disposal or registered service provider. .

## 6.7 Waste Generation

The GLM does not collect data on waste generation, records are only kept for waste disposal and recycling. The following records were used to determine waste generation rates:

- Landfill site disposal records
- Recycling records from the service provider responsible for the separation at source programme and other recycling companies operating in the GLM
- Hypothetical domestic waste generation rates
- SAWIS records
- Hazardous waste survey results

These records can assist in determining waste generation however there are still gaps in the data:

- Not all of the households in the GLM receive a collection service, 2.3% of households use their own refuse dumps or other refuse service. This information has been sourced from the Community Survey 2016, which does not indicated what methods are used for when indicted other. The waste from these households would therefore not reach landfill sites.
- As will most if not all municipalities in South Africa illegal dumping of waste occurs in the GLM. While cleanup campaigns are undertaken not all illegally dumped waste will enter a landfill site where it is recorded.
- There are no weighbridges at the George (Gwaing) or Uniondale landfill sites. As at July 2019 no records of waste entering the Uniondale landfill site were recorded. The waste entering the George landfill site is based on estimations from the gate control sheet which is a tool that was designed by DEA&DP to assist municipalities who do not have weighbridges to quantify their waste.
- Some waste is diverted for recycling, although the two largest recycling companies in the GLM were contacted to obtain records there are other small companies also operating in the GLM. The GRDM waste management by-law requires all waste recycling companies to register and report on the GRWMIS. The GLM will be given viewing rights to information captured on the system



- Waste being diverted for home composting or composting on farms is not recorded. The composting facility visited during the preparation of the IWMP was unable to provide records of waste entering the site.

The below data is sourced from landfill site disposal records, records from waste management companies and information provided from DEA&DP which has been sourced from the IPWIS. Based on these records a total of 4,756.6 tonnes of waste is generated in the GLM per month. The majority of waste generated in the GLM is domestic waste (63.2%), recyclable waste (16.2%) and construction and demolition (13.2%). It is likely that this is an underestimation of recyclable waste, as a portion of domestic waste and commercial and industrial waste would likely also be recyclable. As per the results for the domestic waste characterisation, 38.3% by mass of the domestic waste stream is composed of recyclable material.

**Table 30: GLM waste profile (source: DEA&DP data provided on 27/03/2019, IPWIS data, data sourced from private recycling companies and data provided by GLM)**

Waste Type	Data source	Average per month (tonnes)	% of waste generated	Management method
Domestic Waste	GLM, PetroSA data	3,008.3	63.2	Disposal at landfill
Recyclables	GLM and private recycling companies	771.8	16.2	Recycling
Green waste	DEA&DP IPWIS	319.3	6.7	Landfill/ stockpiled for composting
Construction and demolition	DEA&DP IPWIS	629.8	13.2	Landfill/ stockpiled for construction of platform at composting facility
Health care risk waste	WCDoh	20.7	0.4	Treatment
Hazardous waste	SAWIS	6.7	0.1	Various
<b>Total</b>		<b>4,756.6</b>	<b>100</b>	

The GLM disposes of domestic waste at the Uniondale and PetroSA landfill sites. Domestic waste disposal records for Uniondale landfill site are unavailable. The records below are for domestic waste being disposed of at the PetroSA landfill sites. Waste generation and subsequent disposal varies throughout the year and in the GLM. Domestic waste generation is highest in January and February which is when tourism is at its peak.

**Table 31: Waste records (tonnes) for the GLM (January 2018 – December 2018) (source: DEA&DP, GLM and private recyclers)**

Month	Domestic waste (tonnes)	Recyclables (tonnes)	Green waste (tonnes)	C&DW (tonnes)	Total waste (tonnes)
January	3,414.2	1,149.7	292	480.2	4,186.4
February	4,078.6	849.1	360.6	769.0	5,223.4
March	2,853.8	842.9	307.6	267.8	3,429.2
April	3,177.3	866.5	242.9	217.5	3,637.7
May	2,971.8	914.8	309.3	522.2	3,803.3
June	2,478.2	716.9	159	400.5	3,054.2
July	2,857.7	603.7	221.3	2876.4	5,955.4
August	2,661.2	665.3	184.7	278.1	3,123.9
September	2,752.7	643.9	154.0	259.9	3,166.6
October	3,001.5	747.7	367.0	621.3	3,989.8

Month	Domestic waste (tonnes)	Recyclables (tonnes)	Green waste (tonnes)	C&DW (tonnes)	Total waste (tonnes)
November	3,238.4	599.8	693	769.2	4,700.4
December	2,613.9	661.7	541	95.5	3272.9
<b>Total</b>	<b>36,099.1</b>	<b>9,261.9</b>	<b>3831.6</b>	<b>7557.4</b>	<b>47543.1</b>
<b>Average per month</b>	<b>3,008.3</b>	<b>771.8</b>	<b>319.3</b>	<b>629.8</b>	<b>3961.9</b>

The generation pattern for e-waste and household hazardous waste (HHW) cannot be determined from this data. There are currently no drop-off points for E-waste and HHW within the GLM.

### 6.7.1 Hypothetical Domestic Waste Generation Rates

This section presents a theoretical calculation of the likely total quantity of waste generated in the GLM using population data and published “per capita” waste generation rates.

The South Africa State of Environmental Report, 2006 (SOER) calculates waste generation volumes per income level as follows:

- Low income 0.41 kg/ person/ day = 149.65 kg/ person/ year.
- Middle income 0.74 kg/ person/ day = 270.1 kg/ person/ year.
- High income 1.29 kg/ person/ day = 470.85 kg/ person/ year.

The SOER figures for waste generation are also used in the Department of Environmental Affairs Guideline for the Development of Integrated Waste Management Plans (IWMPs). The DEA IWMP guideline also presents the following income brackets:

- Low income R 0 – R 74,999 per year.
- Middle income R 75,000 – R 999,000 per year.
- High income R 1 million + per year.

The GLM income profile was determined based on STATs SA records (Census 2011) and IDP 2019/2020. A population of 217,074 persons was used (GLM IDP, 2019/2020) to calculate the waste tonnages presented in Table 32 below.

**Table 32: Theoretical calculation of domestic waste produced in the GLM**

Waste generation/ income group	Income group	% of population	No. person	Waste generation kg/day	Waste generation kg/annum	Waste generation tonnes/ annum
Low income 0.41kg/person/day	No income	12%	26,264	10,768	3,930,338	3930
	R1 - R,4800	3%	56,43	2,314	844,535	845
	R 4,801 - R 9,600	4%	95,50	3,916	1,429,214	1429
	R9,601 - R19,600	13%	28,651	11,747	4,287,641	4288
	R19,601 - R38,200	19%	42,108	17,264	6,301,533	6302
	R38,201 - R76,400	17%	37,550	15,396	5,619,409	5619
	<b>Sub-total</b>		<b>149,767</b>	<b>61,405</b>	<b>22,412,670</b>	<b>22,413</b>
Medium income 0.74kg/person/day	R76,401 - 153,800	13%	27,566	17,642	6,439,384	6439
	R153,801 - R307,600	10%	21,271	13,614	4,968,974	4969
	R307,601 - R614,400	6%	13,023	8,335	3,042,229	3042
	R614,001 - R1,228,800	2%	3,690	2,362	861,965	862

Waste generation/ income group	Income group	% of population	No. person	Waste generation kg/day	Waste generation kg/annum	Waste generation tonnes/ annum
	Sub-total		65,550	41,952	15,312,552	15,313
High income 1.29kg/person/day	R1,228,801 - R2,457,600	1%	1,085	1,400	510,999	511
	R2,457,601+	0%	651	8,40	306,600	307
	Sub-total		1,736	2,240	817,599	818
<b>Total</b>		<b>100%</b>	<b>217,054</b>	<b>105,597</b>	<b>38,543</b>	<b>38,542,821</b>

Based on the above estimation, a total of 105.6 tonnes of domestic waste per day or 38,543 tonnes per annum is generated within the GLM.

There is a slight discrepancy between the reported waste quantities from weighbridge data (Table 31) and the theoretical ones (Table 32). The weighbridge data (36,099.1 tonnes/annum) is slightly less than the hypothetical calculations of domestic waste generation (38,543 tonnes/annum). Possible explanations of this variation are:

- Due to recycling initiatives less waste enters the waste disposal stream to the landfill site and enters the recycling waste stream. These totals would not have been added to the landfill mass data.
- Weighbridge records for PetroSA also include general waste collected from business and industry
- A sample of trucks entering PetroSA landfill site are weighed, these are used to determine the average weight of a truck. This average weight is used to determine waste disposal tonnages. This data may not be 100% accurate
- The income levels of the population were calculated based on Census 2011 data. This data set is 8 years old. There may since have been some change in the representation of the different household income in the GLM.
- There are a large number of holiday homes, bed and breakfasts and rental properties in GLM. As a tourist town, the number of people staying in GLM will fluctuate significantly throughout the year. The population presented in the GLM Community Survey only accounts for permanent residents and not seasonal residents and tourists.
- The waste generation categories per income level are not in-line with actual waste generation rates for residents of GLM.

## 6.7.2 Business and Industrial Waste Disposal

The waste from business and industry which is collected by the GLM is disposed of at the Uniondale or PetroSA landfill sites. The records for waste disposed of at the PetroSA landfill site by GLM do not differentiate between domestic and business/ industrial waste. GLM should look into better classifying business and industrial waste to help obtain better data on the waste that the municipalities collect and dispose of at landfills.

The SAWIS however records a total of 722.9 tonnes of waste under the category “commercial and industrial waste” for 2018.

### 6.7.3 SAWIS Hazardous Waste Records

According to SAWIS records 81.2 tonnes of hazardous waste was generated in the GLM 2018. The majority of hazardous waste generated in the GLM is bitumen.

**Table 33: Summary of hazardous waste generation in GLM in 2018 (data accessed on 21 July 2019)**

Waste type	Management option	Tonnes generated
Asbestos containing waste	Disposal	0.6
Bitumen	Disposal	67.1
Liquid and sludge organic waste	Disposal	12.2
Solid waste containing mercury	Treatment	1.3
<b>Total</b>		<b>81.2</b>

The table above summarises records for hazardous waste generated in the GLM. The table below details hazardous waste treated or recycled in the GLM. A total of 20.5 tonnes of hazardous waste was treated or recycled/ recovered in GLM in 2018.

**Table 34: Summary of hazardous waste treatment and recycling/ recovery in GLM in 2018 (data accessed on 21 July 2019)**

Waste type	Management method	Tonnes
HCRW: Infectious waste and sharps	Treatment	5
HCRW: Pathological waste	Treatment	11.5
Solid waste containing mercury	Treatment	1.3
Miscellaneous	Treatment	1.4
Solid waste containing mercury	Recycling or recovery	1.3
<b>Total</b>		<b>20.5</b>

### 6.7.4 IPWIS Hazardous Waste Records

No information on hazardous waste generation, disposal or treatment for GLM was received from DEA&DP. The data that is obtained from SAWIS may have originated from the IPWIS as the two systems are interlinked.

### 6.7.5 Hazardous Waste Survey Results

The following information has been captured through the hazardous waste survey undertaken during the situational analysis review. There are still some questionnaires outstanding and it is anticipated that the data will be updated several times before the IWMP is finalised.

**Table 35: Hazardous waste survey results**

Industry	Waste type	Quantity tonnes/ month	Management method	Comments
Abattoir	Abattoir waste (intestines)			
Abattoir	Abattoir waste (blood)			
Abattoir	Abattoir waste			

Industry	Waste type	Quantity tonnes/ month	Management method	Comments
	(other)			
Waste management	Used lubricants (oils)		Sent to Cape Town for recycling	
Various	Hazardous liquids - oil	27.7	Sent to Cape Town for recycling	Converted from litres to tonnes (conversion factor - 0.85kg/litre)
Waste management	Sanitary waste		Sent to Cape Town for treatment	Treated as hazardous waste by waste management company. <i>Note: this is data for the entire GRDM.</i>
Used oil recycler				
Saw mill	TBC			
HCRW management company	TBC			Treated as hazardous waste by waste management company. <i>Note: this is data for the entire GRDM.</i>

## 6.8 Future Waste Generation

### 6.8.1 Future Domestic Waste Generation

An understanding of future waste generation is valuable for waste planning and therefore should be considered in an IWMP. The table below estimates waste generation over a five and ten year period. Waste generation rates have been estimated based on historic and anticipated population growth. The population of GLM increased by 8.1% between 2019 and 2024 (approximately 1.8% per annum).

**Table 36: Future domestic waste generation rates based on projected population growth rate of 1.35% per annum (population numbers from GLM IDP)**

Year	Population	Projection of generation quantities based on population	Projection based on weighbridge data (tonnes/annum)
2019	217,054	38,543	36,099
2024	236,409	39,793	38,678
2029	243,440	43,228	42,017

### 6.8.2 Future Business and Industrial Waste Generation

Future business and industrial waste generation is difficult to quantify as it depends on local economic conditions. Waste from businesses such as the health care industry and the food industry should increase with an increasing population.

During discussions with sawmills in the GRDM it was noted that a reduced supply of timber from government owned forestry is anticipated towards the end of 2019. The lack of timber is

attributed to the fires in the GRDM in 2016 -2018 and a lack of replanting following harvesting. This lack of timber will impact on waste generation (wood chips, sawdust, offcuts, CCA contaminated waste) from privately owned sawmills.

## 6.9 Waste Information Systems

Waste data for the GLM is reported onto three (3) different waste information systems

1. South African Waste Information System (SAWIS) – A national waste information system managed by DEFF. Information reported on the SAWIS is publically accessible through the South African Waste Information Centre (SAWIC)
2. Integrated Pollution and Waste Information System (IPWIS) – A provincial waste information system managed by DEA&DP
3. Garden Route Waste Management System (GRWIS)– a district waste information system managed by GRDM

The following sections present data sourced from each of these systems.

### 6.9.1 SAWIS Waste Records

The South African Waste Information Centre (SAWIC) records 217,434 tonnes of waste (hazardous and general waste) as having been disposed of to landfill in 2017, in the GLM. These records are significantly higher than the estimated waste generation rate for the GLM as well as the mass data provided by the GLM.

**Table 37: SAWIS waste disposal records for GLM (data source, SAWIS, accessed on 17/04/2019)**

Year	Waste Management Method	General waste (tonnes)	Hazardous Waste (tonnes)
2015	Waste Disposal	3,554.8	0.0
	Waste Recovery or Recycling	4,106.6	0.0
	Waste Treatment	0.0	1.2
	<b>Total</b>	<b>7,661.4</b>	<b>1.2</b>
2016	Waste Disposal	4,712.8	0.0
	Waste Recovery or Recycling	3,687.0	0.0
	Waste Treatment	0.0	0.3
	<b>Total</b>	<b>8,399.8</b>	<b>0.3</b>
2017	Waste Disposal	9,835.6	0.0
	Waste Recovery or Recycling	3,800.0	0.2
	Waste Treatment	0.0	232.4
	<b>Total</b>	<b>13,635.6</b>	<b>232.6</b>
2018	Waste Disposal	8,302.7	0.0
	Waste Recovery or Recycling	3,260.4	1.3
	Waste Treatment	0.0	19.2
	<b>Total</b>	<b>8,663.1</b>	

### 6.9.2 Integrated Pollution and Waste Information System

The Integrated Pollutant and Waste Information System (IPWIS) is the Western Cape's waste information system. The IPWIS was launched in 2006 and at present all of the 24 local municipalities except Oudtshoorn Local Municipality are reporting on the system. IPWISIPWIS

**Table 38: 2018 IPWIS waste disposal records for GLM (data source, IPWIS, provided by DEA&DP on 17/04/2019)**

Months	Organic (tonne)	Construction and Demolition Waste (tonne)	Total (tonne)
January	292.00	480.20	772.20
February	360.55	769.00	1,129.55
March	307.60	267.80	575.40
April	242.90	217.50	460.40
May	309.25	522.20	831.45
June	158.95	400.45	559.40
July	221.32	2,876.39	3,097.71
August	184.65	278.05	462.70
September	154.00	259.85	413.85
October	366.95	621.30	988.25
November	692.80	769.20	1,462.00
December	540.60	95.50	636.10
<b>Total</b>	<b>3,831.57</b>	<b>7,557.44</b>	<b>11,389.01</b>
Average/ month	319.3	629.8	949.1

### 6.9.3 Garden Route District Municipality Waste Information System

The GRDM also has a waste information system called the Garden Route Waste Information System (GRWIS). Waste generators and recyclers are required to report on the GRWIS in terms of the GRDM waste management by-laws (2016).

At present only health care risk waste generators are registered and reporting on the system. Waste management and recycling companies are also in the process of registering, however they have not yet commenced with reporting.

**Table 39: List of companies and facilities registered on GRWIS (data source, GRDM)**

Company/ facility type	No. registrations
Hazardous waste facility	1
Health care risk waste facility	167
Industrial waste	28
Landfill site	3
Recycling facility (general)	2
Recycling facility (metal)	1
Waste transporter	1

## 6.10 Future Residential Developments

The GLM approach to management of future urban development is to continue to maintain a clear urban edge around all settlements within George.



Based on a review of the spatial development framework (SDF) growth in GLM is planned in the southwest up to the Gwaing river and coast

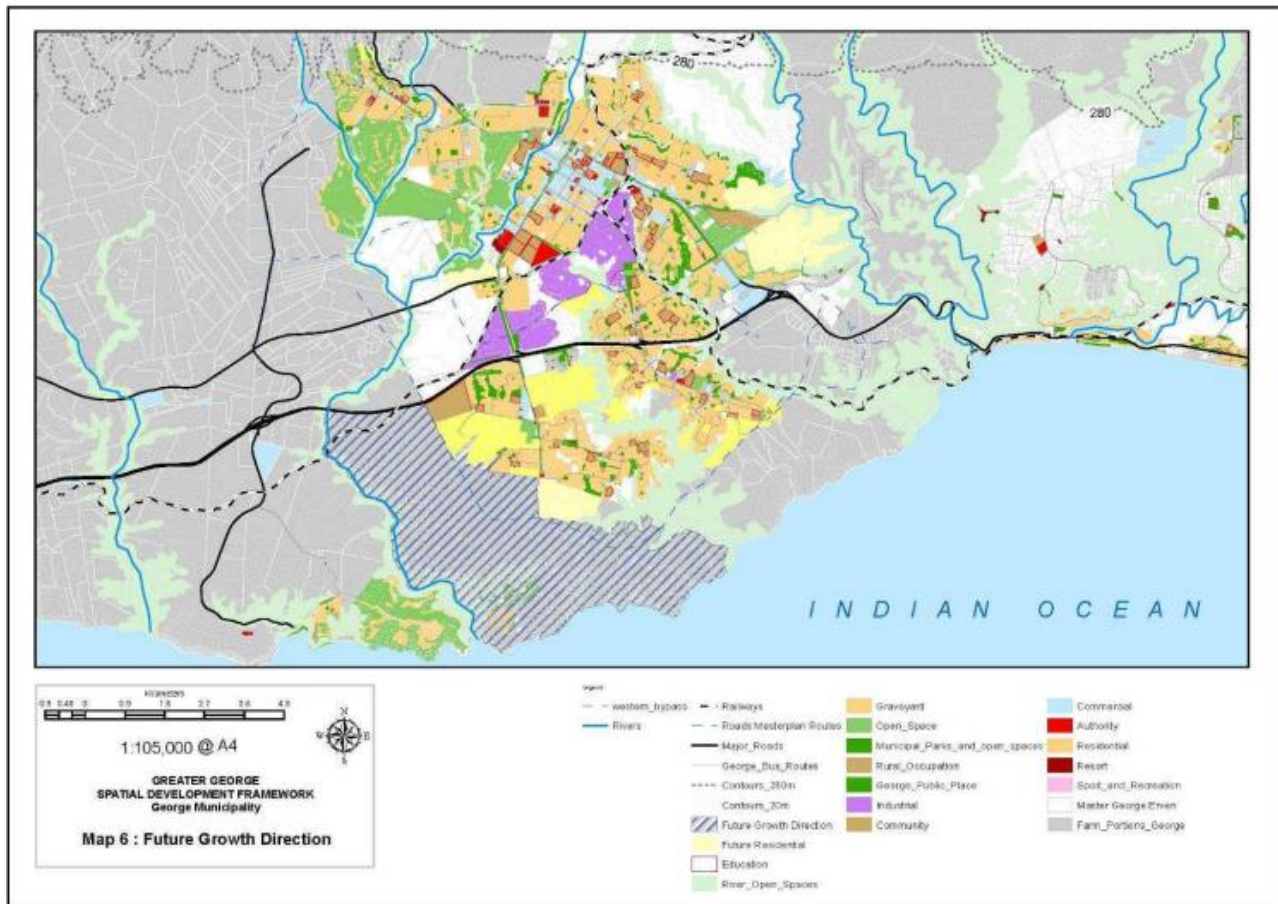


Figure 16: George SDF Future Growth Development (George Municipality SDF, map 6, pg70 (27/05/2019)

## 6.11 Health Care Risk Waste

The Western Cape Department of Health (WCDH) is responsible for the management of health care risk waste (HCRW) generated in government hospital and clinics. The WCDH does not currently report data onto the GRWIS.

Table 40: HCRW data for GLM January – December 2018 (data source, WCDH)

Month	Sharps (kg)	Pharmaceutical (kg)	Cyto toxic (kg)	RUC Gross (kg)	Anatomical (kg)	Trochar (kg)	Speci bin (kg)
January	379.1	25.0	0.0	100767.6	270.7	16.7	2.6
February	379.1	25.0	0.0	100767.6	270.7	16.7	2.6
March	414.0	305.3	62.9	11381.9	11.3	29.8	139.0
April	502.2	303.2	76.8	11830.7	34.4	13.9	185.8
May	275.0	424.2	130.1	1599.0	38.0	4.0	0.0
June	274.0	451.7	118.8	1612.0	35.0	2.0	0.0
July	439.0	379.7	137.6	1663.0	43.0	7.0	0.0
August	353.0	302.9	84.9	1659.0	42.0	5.0	4.0



Month	Sharps (kg)	Pharmaceutical (kg)	Cyto toxic (kg)	RUC Gross (kg)	Anatomical (kg)	Trochar (kg)	Speci bin (kg)
September	263.0	352.9	65.5	1468.0	27.0	4.0	9.0
October	308.0	278.9	85.3	1525.0	30.0	3.0	6.0
November	1712.0	318.1	161.8	1712.0	55.0	4.0	4.0
December	223.0	212.3	102.5	1197.0	50.0	3.0	37.0
<b>Total</b>	<b>5,521.3</b>	<b>3,379.1</b>	<b>1,026.1</b>	<b>237,182.8</b>	<b>907.0</b>	<b>109.0</b>	<b>389.8</b>

## 6.12 Waste Services

Data regarding the extent of waste services provision were sourced from census data (community survey 2016) as well as data received from GLM. According to the 2016 Community Survey 93.3% of households in the GLM receive a weekly kerbside collection service. The percentage of households receiving a weekly collection service has increased from 88.1% in 2011 to 93.3% in 2016.

**Table 41: Waste collection services in the GLM (data source Stats SA Census 2001 and 2011 and Community Survey 2016)**

Waste Collection	Community Survey 2016	Census 2011	Census 2001
Removed weekly	93.3	88.1	83.0
Removed less often	4.0	0.6	
Communal refuse dump	0.4	1.1	14.2
Communal container	0.2	0	
Own refuse dump	1.7	5.9	
No refuse disposal	0.0	2.6	2.9
Other	0.5	1.6	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 42: Waste collection services per household in the GLM (data source Stats SA Census 2001 and 2011 and Community Survey 2016)**

Waste Collection	Percentage of households	No. households
Removed weekly	93.3	58,515
Removed less often	4.0	24,86
Communal refuse dump	0.4	244
Communal container	0.2	103
Own refuse dump	1.7	1,043
No refuse disposal	0.0	30
Other	0.5	299
<b>Total</b>	<b>100</b>	<b>62,722</b>

*Note: the reporting categories in Census 2001 varied slightly from the reporting categories used in Census 2011 and Community Survey 2017*

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#### Comment on Stats SA data sets

The table above presents two different Stats SA data sets.

1. The 2011 Census data
2. The 2016 Community Survey data

The 2011 Census surveyed all South African households. This data is 7 years old but it remains the most up to date complete census data set for the country.

The 2016 Community Survey data is more recent (2016), however only a sample (8.1%) of South African households were surveyed during this census. The Community Survey was designed to be a representative sample of South African households.

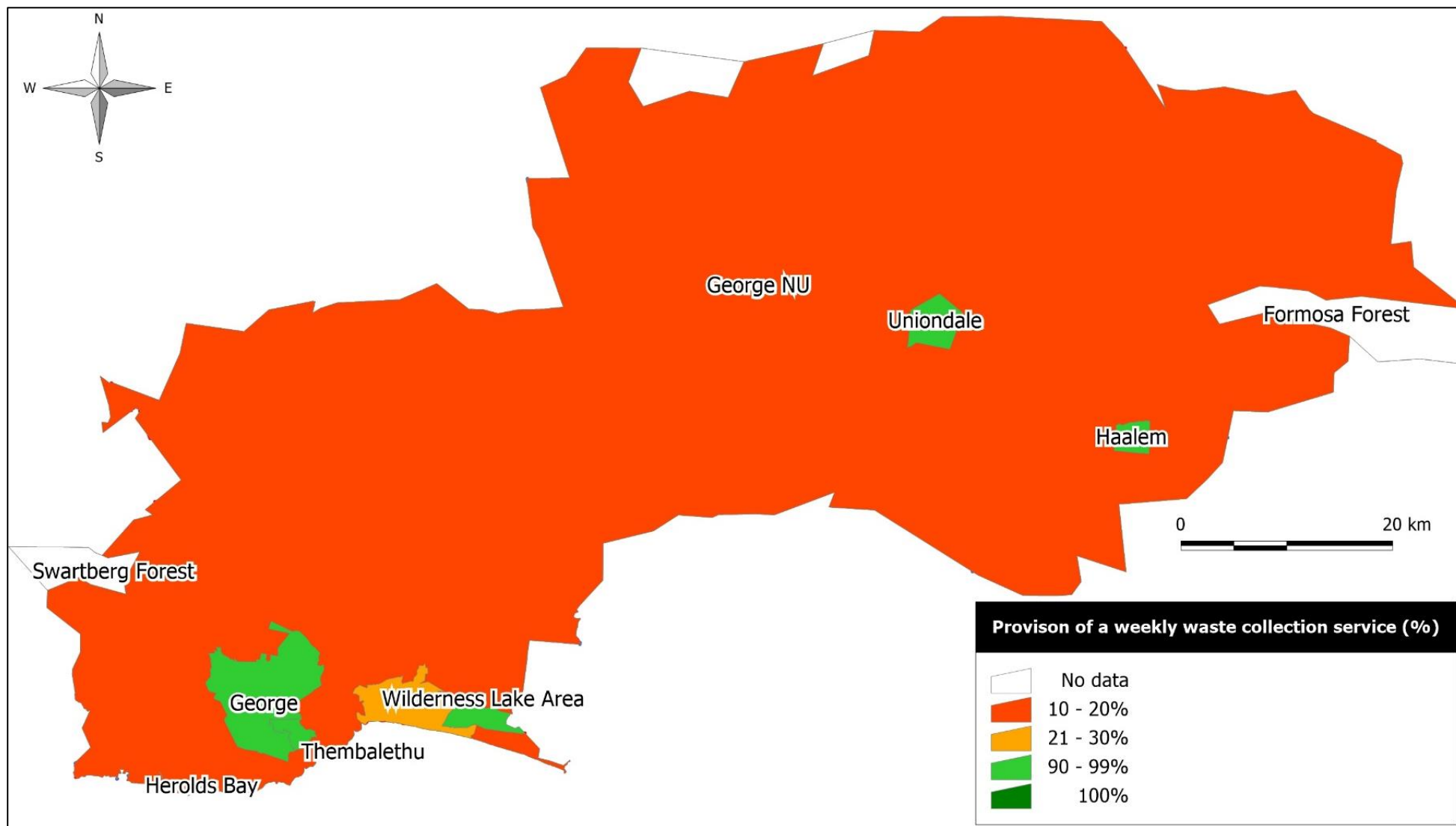


Figure 17: Percentage of households receiving a weekly waste collection service in different suburbs of GLM (STATs SA Community Survey 2016 data)

Based on Community Survey data, 93.3% of households receive a weekly collection service. The majority of households in urban or densely populated areas receive a weekly collection service. Households in rural areas such as Formosa and Swartberg State Forest typically do not receive a weekly collection service. Provision of waste services to households in non-urban (George NU) is low, this is due to the rural nature and low population density in this area.

**Table 43: Waste service provision per area within the GLM (source: Community Survey 2016). Areas with a weekly collection service of less than 70% are shown in red**

Area	Removed weekly (%)	Removed less often (%)	Communal refuse dump (%)	Own refuse dump (%)	No refuse disposal (%)	Other (%)	Total
Formosa State Forest	No records						
George	98.4	0.3	0.4	0.1	0.7	0.1	100
George NU	14.9	3.3	7.5	48.4	14.6	11.4	100.1
Haarlem	99	0	0.3	0.5	0.2	0	100
Herolds Bay	100	0	0	0	0	0	100
Swartberg State Forest	No records						
Thembaletu	92.1	0.2	0.2	3.3	2.7	1.6	100.1
Uniondale	97.5	0.1	0.4	0.8	1.1	0.1	100
Wilderness	96.3	0.2	2.4	1	0.1	0	100
Wilderness Lake Area	24.1	5.6	0	24.1	24.1	22.2	100.1

### 6.12.1 Waste Collection Rounds

Black bags are collected weekly from all residential areas. Details of the collection routes are presented in below.

**Table 44: Waste collection schedule**

Collection Days	Areas Serviced
<b>Monday</b>	Heather Park, Heatherlands, Victoria Bay, Blue Mountain Village, Glenbarrie, Groenkloof, Heroldsbay, Blanco, Riverlea
<b>Tuesday</b>	Lawaaiakamp, Borchers, Wilderness, Kleinkrantz, Thembaletu, Levallia, Rosemore, Conville, Protea Park, Parkdene, Ballotsview, Tousranten, Constancia Kloof
<b>Wednesday</b>	Blommekloof, Twee Rivier, Camphersdrift, Fernridge, Denneoord, Bo-dorp, Hoekwil, Die Vleie, Hoogekraal
<b>Thursday</b>	Roorivier, Pacaltsdorp, Rosedale, Dormehlsdrift, George South, Bos en Dal, Groeneweide Park, Hansmoeskraal, Le Grand, Kingswood, Earls Court, Wilderness Heights
<b>Friday</b>	Bersig, Eastern Extension, Glenwood, Lorie Park, Eden Geprge, Kraaibosch Estate & Manor, Genevafontein, Denver Park

## 6.13 Waste Recycling

### 6.13.1 Separation at Source

The GLM has a multi-bag waste collection system in operation. The bags are colour coded as follows:

- Black bags: for general waste non recyclables, and these are collected by a combination of municipal trucks, service providers and co-operatives
- Blue bags: source separated recyclables that are collected by a service provider
- Green bags: garden waste that is collected by a service provider

Each households is provided with 2 of each of the different coloured bags. Bags are replaced when bags are collected. If one bag is put out, one empty bag will be given back.

On average 524.6 tonnes of recyclable waste is collected through the blue bag system per month.

**Table 45: Recyclables collected through the two bag system January – June 2019 (source, GLM)**

Month	Tonnes of recyclables collected (tonnes)
January	544.6
February	428.1
March	519.5
April	548.1
May	558.4
June	549.0
<b>Average per month</b>	<b>524.6</b>

The blue-bag system is in operation in all urban and high-density residential areas in GLM. Blue bags are collected weekly from all residential areas listed in the table below.

**Table 46: Areas serviced by the blue bag system**

Collection Days	Areas Serviced
<b>Monday</b>	Heather Park, Heatherlands, Victoria Bay, Blue Mountain Village, Glenbarrie, Groenkloof, Heroldsbay, Blanco, Riverlea
<b>Tuesday</b>	Lawaikamp, Borchers, Wilderness, Kleinkrantz, Thembaletu, Levallia, Rosemore, Conville, Protea Park, Parkdene, Ballotsview, Tousranten, Constanica Kloof
<b>Wednesday</b>	Blommekloof, Twee Rivier, Camphersdrift, Fernridge, Denneoord, Bo-dorp, Hoekwil, Die Vleie, Hoogekraal
<b>Thursday</b>	Rooirivier, Pacaltsdorp, Rosedale, Dormehlsdrift, George South, Bos en Dal, Groeneweide Park, Hansmoeskraal, Le Grand, Kingswood, Earls Court, Wilderness Heights
<b>Friday</b>	Bersig, Eastern Extension, Glenwood, Loerie Park, Eden George, Kraaibosch Estate & Manor, Genevafontein, Denver Park

The service provider that manages the system indicated that about 70% of households in the areas covered by the blue bag system covers participate in the programme.

### 6.13.2 Swap Shops

There are no swap shops in operation in the GLM. The GLM are in the process of planning to set up swap shops and are looking for funding.

### 6.13.3 Recycling Drop-Off Facilities

Currently there is no formal municipal recycling drop-off points within the GLM. Recyclable waste can be dropped off at either Interwaste or Henque Waste within the GLM. The GLM is in the process of upgrading the George transfer station, and as part of the upgrades recycling drop-off facilities will be installed.

### 6.13.4 Waste Recycling Records

The GLM keeps records of recyclables collected through the two bag system and by private recycling companies. When the blue bag system is in operation average of 942.8 tonnes of material is reclaimed for recycling per month in GLM. Between June – December 2018 when the blue bag system was not in operation the volume of waste recovered decreased to an average of 213.5 tonnes per month. This drop-off in the volume of waste being recycled highlights the importance of the separation at source programme in GLM. Blue bags (55.5%) make up the majority of recycling occurring in the GLM. It must be noted that blue bags are mix of different recyclables (glass, paper, cardboard, plastic, metal etc.). No breakdown of the composition of material received through the blue bag system was available.

**Table 47 : Summary of recycling data for GLM (data source, GLM and service provider)**

Month	Paper and cardboard	Glass	Plastic	Blue Bags	Total
January	156.9	178.4	38.2	773.8	1,147.3
February	125.8	125.4	33.2	600.6	885
March	146.6	114.9	35.6	606.7	903.8
April	132.5	118.5	35.7	587.2	873.9
May	147.3	127.8	31.7	597.3	904.1
June	137.8	139.4	33.5		310.7
July	97.6	67.4	14.6		179.6
August	103.6	91.9	14.8		210.3
September	89.2	80.1	16.1		185.4
October	100.9	104.7	14.4		220
November	105.5	56.0	12.3		173.8
December	94.2	108.0	12.6		214.8
<b>Total</b>	<b>2,875.8</b>	<b>2,625.2</b>	<b>585.6</b>	<b>3,165.6</b>	<b>6,208.7</b>
Average/ month	239.7	218.8	48.8	633.1*	886.7

\*average based on data from January – May 2018

### 6.13.5 Future Waste Recycling Facilities

#### (a) Material Recovery Facility

There are currently no municipal material recovery facilities in GLM. A small material recovery facility (MRF) is under construction at the George transfer station.

The MRF will operate as a dirty MRF and will sort mixed domestic waste from the GLM.

## 6.14 Management of Hazardous Waste

The table below presents a summary of hazardous waste treatment and disposal facilities in the GLM.

**Table 48: Summary of hazardous waste management facilities in the GLM**

Facility name	Location	Facility Owner	Type of facility
Greenscrap (Interwaste)	George	Greenscrap Recycling (Interwaste)	General and hazardous waste storage facility
Optimum Waste	George	Optimum Waste	Hazardous waste storage, treatment and incineration facility

Information gathered during interviews with waste management companies and waste generators suggests that hazardous waste generated in GLM is either disposed of in the ill site (H:h) in the City of Cape Town or Aloes landfill site (H:H) in Port Elizabeth.

There are no treatment facilities for hazardous waste in the GLM. Based on the literature review and industry interviews the destination of hazardous waste is detailed below.

**Table 49: Destination of hazardous waste**

Waste type	Destination	Comments
Fluorescent tubes	Reclite - Cape Town	-
Asbestos	Aloes hazardous waste facility, Nelson Mandela Bay Metropolitan Municipality	There is one company that manages asbestos within the GLM.
Used hydrocarbon oils	FFS – Cape Town	There is a company within the GLM that collects used cans from businesses in the area.
Used oil, rags and filters	Mossel Bay	There is a waste company that collects used oils, rags and filters from businesses in the area.
Sanitary waste	Cape Town	Although not classified as hazardous waste, sanitary waste is treated as hazardous waste by the company managing it.
E-Waste	Cape Town	Waste is collected by a service provider and disposed of off-site.
Laboratory Waste	Cape Town	A waste collection company collects the waste and disposes of it, legally.
Medical Waste	Cape Town	A waste collection company collects the waste and disposes of it, legally.
Food	Cape Town	A waste collection company collects the waste and disposes of it, legally.
CCA	Cape Town	Waste is collected by a service provider and disposed of off-site.
Automotive	Mossel Bay	A waste collection company collects the waste and disposes of it or re-uses it, legally.
Health Care	Cape Town	Waste is collected by a service provider on behalf of the western Cape Health Department and disposed of off-site.

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## 6.15 Organic Waste Management

At present the GLM disposes of the majority of green waste at the George (Gwaing) and Uniondale landfill sites. Green waste is also currently stockpiled at the George landfill site for use in the composting facility adjacent to the landfill site which is currently under construction. There are private recycling companies operating in the GLM but they mainly accept waste from timber mills and not garden waste.

### 6.15.1 Composting Facility

A composting facility is in the process of being developed at the George transfer station/landfill. The composting facility will accept green waste and will be managed by the GLM. As the GLM will be making use of the regional landfill site they will have access to the roaming regional chipper which can be used at the composting facility in the future.



Figure 18: Proposed location of composting facility

### 6.15.2 Home Composting Pilot Programme

The GRDM launched a pilot home composting project in the district. George is one of the municipalities where a pilot programme is being undertaken. The pilot composting programme was advertised in a local newspaper and households were invited to register their interest in participating. Fifty (50) composting bins and scales were distributed to households across the municipality, households also received training on how to compost and how to record the mass of waste separated for composting. Of the 50 households issued with equipment, 45 are participating and collecting data on the diversion of organic waste.





**Figure 19: Home composting bin**

A total of 3.7 tonnes of organic waste was diverted from 45 households between April and July 2019. This is an average of 20.5kg of organic waste per household per month.

### **6.15.3 Legal Drivers for the Development of Composting Facilities**

The National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) require a 25% reduction of garden waste to landfill by 2018 and a 50% diversion by 2023.

There are more ambitious targets in the Western Cape. The Western Cape PIWMP sets a target of a 50% diversion rate of organic waste by 2022 and a 100% diversion rate by 2027.

At present the GLM does not have composting facility and does not have a facility in place to meet either the national or provincial target.

The development of composting facilities, anaerobic digesters or expanding the home composting programmes are methods which can be used to divert organic waste from landfill sites. The GLM is process of developing a composting facility.

## **6.16 Waste Management Facilities**

Details of waste disposal facilities in the GLM are presented in this section.

**Table 50: Summary of waste management facilities in the GLM area**

Status of site	No. sites
Operational landfill site	2
Closed landfill site	1
George Transfer station (operational)	1
Uniondale Transfer station (completed, not operational)	1
MRF (under construction)	1
Composting facility (in planning/construction)	1

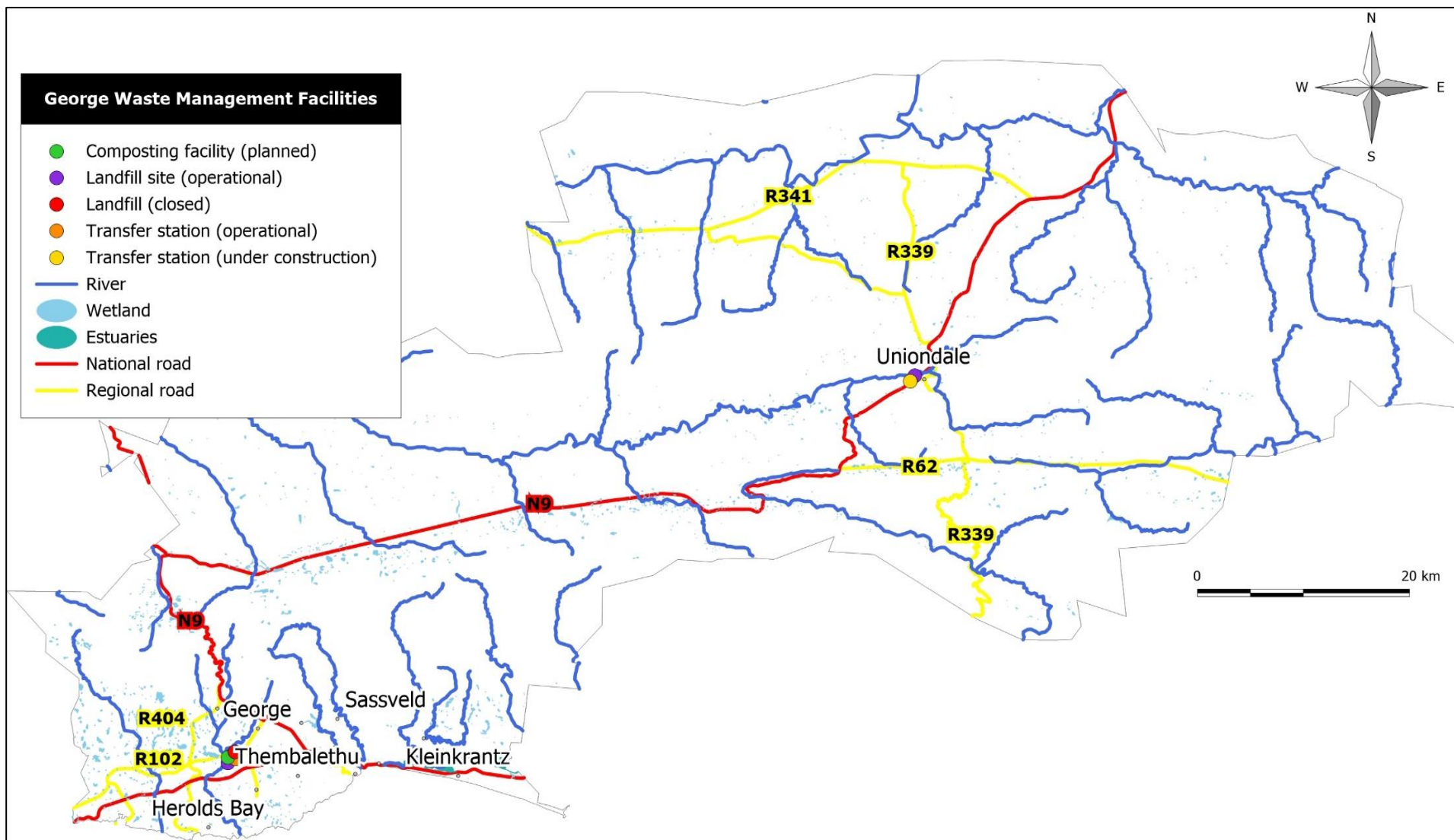


Figure 20: Waste management facilities in the GLM area

### 6.16.1 Regional Landfill Site

The GRDM is in the process of developing a regional landfill site which will accept waste from George, Mossel Bay, Bitou, Knysna and some areas of Hessequa local municipalities. Oudtshoorn local municipality and Kannaland local municipality (KLM) will not be making use of the site at this time. The regional landfill site was permitted in 2014 (DEA ref: 12/19/11/L1395/9), and this permit was amended in July 2017 to extend the date for commencement of construction by an additional 2 years. Once constructed the site will consist of the following components:

- General waste landfill site
- Hazardous waste cell
- Mobile crushers and chippers which will move around to the different local municipalities

### 6.16.2 Municipal Waste Management Facilities

#### (a) Uniondale

The Uniondale landfill site is a permitted facility owned by the GLM which accepts general, building and garden waste. The site has been issued with a closure license for the period September 2024 to 29 September 2029. Closure activities must commence by 24 September 2024.



**Figure 21: Satellite image of Uniondale landfill site landfill site permitted area is shown in yellow (data source, Google Earth, image data, 17/04/2019)**

**Table 51: Uniondale landfill site profile**

<b>Location</b>	Uniondale, George Municipality			
<b>Co-ordinates (entrance of site)</b>	Latitude: 33°39'25.31"S Longitude: 23° 06'44.98"E			
<b>Site classification</b>	Class B (G:C:B-)			
<b>Estimated size of site</b>	35 480m <sup>2</sup>			
<b>License status / type</b>	Decommissioning license			
<b>License number</b>	19/2/5/4/D2/52/WL0140/19			
<b>Anticipated closure date</b>	Closure to commence by September 2024			
<b>Site Status</b>	Operational			
<b>Buffer</b>	There are no houses or residential developments within 500m of the site. The road (N9) helps to form a further barrier.			
<b>Access</b>	Accessed off the N9 via a short gravel road.			
<b>Surrounding land use</b>	Residential, open space			
<b>Access control and signage</b>	Signage at the entrance of the site, there are currently no gates and fences around the site. An EPWP staff member is on-site to control access to the site and record waste entering the facility.			
<b>Plant used on site</b>	A TLB is used on the site.			
<b>Description of waste management</b>	A general worker direct vehicles to the working cells on the site. Once the cell is full covering of waste occurs.			
<b>Waste accepted on site</b>	The site accepts general, building and garden waste.			
<b>Use of cover material</b>	No cover material had recently been applied to waste in trenches on site			
<b>Stormwater management</b>	There is no stormwater management system within the site.			
<b>Recycling</b>	Some informal recycling occurs on site.			
<b>Operating hours</b>	Monday to Friday 07:00 to 16:00 Saturday 07:00 to 14:00 Sunday Closed			
<b>Estimated remaining life of site</b>	The site has been issued with a closure permit and closure must commence in September 2019.			
<b>Monitoring results</b>	DEA&DP undertook landfill site gas detection monitoring in September 2017 and October 2018. No landfill gas was detected during the monitoring.			
<b>Compliance status (audit findings, percentage score)</b>		<b>2016</b>	<b>2017</b>	<b>2018</b>
	<b>Internal</b>	An internal audit was undertaken in 2019, however no scoring system was assigned to the site in the audit report		
	<b>External</b>			
	<b>DEA&amp;DP</b>	<b>22%</b>	<b>27%</b>	<b>50%</b>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>The landfill sites waste body is beyond the licensed footprint</li> <li>There are pickers and salvagers on the site</li> <li>Pickers have set up informal housing on the site</li> <li>Waste is set a light by pickers on-site.</li> <li>Lack of access control</li> <li>No municipal employees were present on site during the site visit. This has since been addressed and EPWP workers are stationed at the site</li> <li>Windblown litter</li> <li>The edge of the site is not well defined.</li> </ul>			





**Figure 22: Uniondale Landfill Site. Photo A, entrance to the Uniondale Landfill Site. Photo B, looking at the cells at the landfill site. Photo C, area around the landfill site and cells covered in windblown waste. Photo D, piling of waste where pickers are separating recyclables**

**(b) Gwaing (George) Landfill Site**

The Gwaing (George) landfill site is a facility which accepts green waste and construction and demolition waste. The landfill is a licensed facility owned and operated by the GLM. The site has been issued with a closure license and closure is due to commence in the new financial year 2019/2020.



Figure 23: Satellite image of Gwaing (George) landfill site, permitted boundary of the site shown in red (data source, Google Earth, image data, 27/01/2019)

Table 52: Gwaing (George) landfill site profile

<b>Location</b>	George Local Municipality (off the R102)
<b>Co-ordinates (entrance of site)</b>	Latitude: 33° 59' 33.84"S Longitude: 22° 25' 18.98"E
<b>Site classification</b>	Class B (G:C)
<b>Estimated size of site</b>	214,000m <sup>2</sup>
<b>License status / type</b>	Licensed for decommissioning
<b>License number</b>	19/2/5/4/D2/19/WL0139/19
<b>Anticipated closure date</b>	Decommissioning must commence by November 2024 and be complete by November 2029
<b>Site Status</b>	Operational
<b>Buffer</b>	There is a buffer zone of approximately 500m.
<b>Access</b>	Site is located off the R102, after the Show Grounds, on the way to the airport.
<b>Surrounding land use</b>	Wastewater treatment works, industry, open space
<b>Facilities</b>	No guardhouse or toilet
<b>Access control and signage</b>	Signage the entrance of the site Fenced all the way around the site Sliding steel gate at the entrance
<b>Plant used on site</b>	A bulldozer is used on-site

<b>Description of waste management</b>	General workers direct vehicles to the working face. Waste is compacted as the waste is brought on to the site.			
<b>Waste accepted on site</b>	The site only accepts general, garden and building waste.			
<b>Use of cover material</b>	Building rubble is used as covering material.			
<b>Stormwater management</b>	No stormwater management system in place on the site.			
<b>Recycling</b>	There are pickers and salvager that recycle on site. They collect plastic, cardboard, steel and construction material e.g. whole bricks which can be reused.			
<b>Operating hours</b>	TBC			
<b>Estimated remaining life of site</b>	The site has been issued with a closure permit and closure will commence in June 2019.			
<b>Monitoring</b>	DEA&DP undertook landfill site gas detection monitoring in January 2017. A maximum methane gas level of 37% was measured on site. Follow up monitoring was undertaken in October 2017. The measured methane gas concentrations (15%) were not a concern.			
<b>Compliance status (audit findings, percentage score)</b>		<b>2016</b>	<b>2017</b>	<b>2018</b>
	<b>Internal</b>	An internal audit was undertaken in 2019, however no scoring system was assigned to the site in the audit report		
	<b>External</b>	An external audit was undertaken in 2017, however no scoring system was used in the audit report		
	<b>DEA&amp;DP</b>		<b>24%</b>	<b>48%</b>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>• There are pickers and salvagers on the site.</li> <li>• Pickers have set up informal housing on the site.</li> <li>• The slopes of the landfill site are very steep, this will pose a challenge to rehabilitation.</li> <li>• There is a lack of permanent plant or a chipper on site to adequately manage waste.</li> <li>• A large volume of garden waste is stockpiled at the entrance of the site, underneath powerlines. This is a fire risk and a risk to the powerlines.</li> <li>• The landfill site is operating outside the licensed footprint. A review of the co-ordinates in the license is required.</li> </ul>			







**Figure 24: George Landfill Site. Photo A, entrance to the George Landfill Site. Photo B, looking at the compaction of waste at the landfill site. Photo C, Public dumping on the landfill site. Photo D, piling of waste where pickers are separating recyclables**

(c) George Waste Management Facility (Transfer Station)

The George waste management facility (transfer station) is a licensed facility owned by the GLM which accepts only general domestic waste.



**Figure 25: Satellite image of George waste management facility (data source, Google Earth, image date, 17/04/2019)**

**Table 53: George waste management facility profile**

<b>Location</b>	R102, George Local Municipality
<b>Co-ordinates (entrance of site)</b>	Latitude: 33° 59' 29.31"S Longitude: 22° 25' 28.41"E
<b>Site classification</b>	H:H
<b>License status / type</b>	Licensed
<b>License number</b>	12/9/11/L417/9
<b>Anticipated closure date</b>	N/A



<b>Site Status</b>	Operational			
<b>Access</b>	Site is located off the R102, after the Show Grounds, on the way to the airport.			
<b>Surrounding land use</b>	George landfill, waste water treatment works, incinerator, industry, open space			
<b>Facilities</b>	Brick office with electricity, water connection and conservancy tank. Weighbridge at the entrance to the facility.			
<b>Access control and signage</b>	Signage the entrance of the facility Security at the entrance to the facility. The facility is fully fenced and there is a sliding steel gate at the entrance			
<b>Plant used on site</b>	TLB			
<b>Description of waste management</b>	Waste is directed the compactor where it is compacted and transported to PetroSA landfill site in Mossel Bay.			
<b>Waste accepted on site</b>	All general waste (black bags)			
<b>Stormwater management</b>	The transfer station is covered to prevent stormwater from coming into contact with the waste.			
<b>Recycling</b>	No recycling is currently occurring on site. A MRF is currently under construction adjacent to the transfer station.			
<b>Operating hours</b>	Monday – Friday: 07H00 – 18H00 Saturday – 07H00 – 17H00 Sunday – Closed			
<b>Compliance status (audit findings, percentage score)</b>		<b>2016</b>	<b>2017</b>	<b>2018</b>
	<b>Internal</b>			<b>71%</b>
	<b>External</b>	An external audit was undertaken in 2019, however no scoring system was used in the audit report		
	<b>DEA&amp;DP</b>		<b>27%</b>	<b>65%</b>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>The transfer station does not currently have an area for sorting of waste</li> <li>When equipment such as the compactor or ro-ro trucks are out of operation waste can build up at the transfer station</li> <li>No surface monitoring sampling is undertaken</li> </ul>			

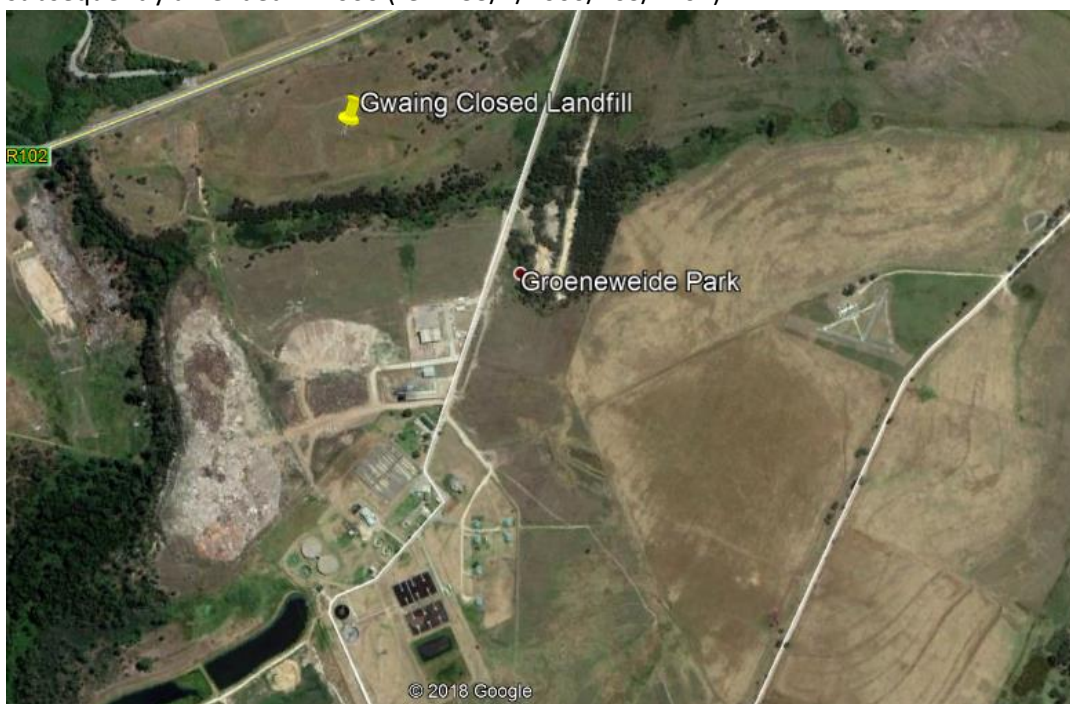




**Figure 26: George waste management facility. Photo A, Sorting and compacting areas at the transfer station. Photo B, Dump truck dumping waste to be sorted and compacted. Photo C, Looking to the North at the entrance of the Transfer Station. Photo D, Looking North at car ports and facilities for the staff at the transfer station**

**(d) Gwaing Closed Landfill**

The Gwaing Closed Landfill has been closed since 2004. The site has been capped and rehabilitated. The site was first licensed in 1994 (ref: B33/2/1000/10/P107), this permit was subsequently amended in 2000 (ref: B33/2/1000/10S/P107).



**Figure 27: Satellite image of Gwaing Closed Landfill (data source, Google Earth, image data, 17/04/2019)**

**Table 54: Gwaing landfill site profile**

<b>Location</b>	R102, George Local Municipality
<b>Co-ordinates (entrance of site)</b>	<ul style="list-style-type: none"> <li>Latitude: 33°59'19.58"S</li> <li>Longitude: 22° 25' 27.19"E</li> </ul>
<b>Site classification</b>	General waste
<b>Estimated size of site</b>	-

License status / type	Licensed for operation			
License number	B33/2/1000/10S/P107			
Anticipated closure date	Closed			
Site Status	Closed			
Access	Site is located off the R102, after the Show Grounds, on the way to the airport.			
Surrounding land use	George landfill and transfer station and the R102,			
Facilities	N/A – as site is closed.			
Access control and signage	Site is closed and rehabilitated			
Description of waste management	N/A			
Waste accepted on site	N/A			
Stormwater management	N/A.			
Recycling	N/A			
Operating hours	N/A			
Compliance status (audit findings, percentage score)		2016	2017	2018
	Internal			
	External			
	DEA&DP			
Challenges	<ul style="list-style-type: none"> <li>N/A</li> </ul>			

(e) Historical Landfill Sites

There are most likely additional historical landfill sites in the GLM. The GLM should engage with DEA&DP, municipal employees and councillors who have been employed at the landfill sites for a long time to determine if the location of these sites are known.

(f) Temporary Skips

The GLM uses informal skips in area where illegal dumping is a concern or in areas where a skip has been requested by the residents. The skips are not permanent features and are moved by GLM as required. These skips are typically not manned. An additional 50 skips have been approved by councillors and will be placed in areas where illegal dumping is an issue.

### 6.16.3 Private Waste Management Facilities

(a) Waste Treatment Facility

The Optimum incinerator is located adjacent to the Gwaing landfill site (entrance: latitude: 33°59'31.48"S, longitude: 22°25'29.61"E). The incinerator is classified as a treatment facility for HCRW with storage facilities. The facility uses a rotary kiln which has a maximum capacity of 12 tonnes per day. The latest license for the facility is dated 2013 (DEA reference 12/9/11/L1140/9).

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## 6.17 Other Waste Management Services

### 6.17.1 Street Bins

The GLM provides over 350 street bins across the municipal area. These bins are emptied by waste municipal workers. The GLM currently is in the process of acquiring another 500 bins through a tender process.



Figure 28: Examples of street bins in GLM

### 6.17.2 Management of Ablution Facilities

The waste management department is currently responsible for the management of public ablution facilities.

### 6.17.3 Litter Picking and Removal of Illegal Dumping

Illegal dumping of waste occurs in open spaces across the GLM costing the municipality R8 345 064.94 for the 2018/2019 financial year. The usual triggers for illegal dumping are a lack of awareness, lack of services and lack of enforcement of by-laws.

The GLM has appointed a service provider and the uses Community Work Programme (CWP) beneficiaries to clean open spaces and illegal dump sites on a daily basis. The service provider also responds to illegal dumping complaints received from the public. Monthly reports which detail the areas which are cleaned are submitted to the GLM.

The GLM and CWP employees clean open spaces and illegal dump sites on a daily basis. The GLM also responds to illegal dumping complaints received from the public.





**Figure 29: Photo A, Dumping along Miller Street. Photo B, Dumping at the end of Miller Street. Photo C, Dumping at Deur Street. Photo D, Dumping along the open area at Fiskaal Street**

The GLM monitors illegal dumping hotspots in the GLM area. The map below has been prepared with information provided by the GLM.

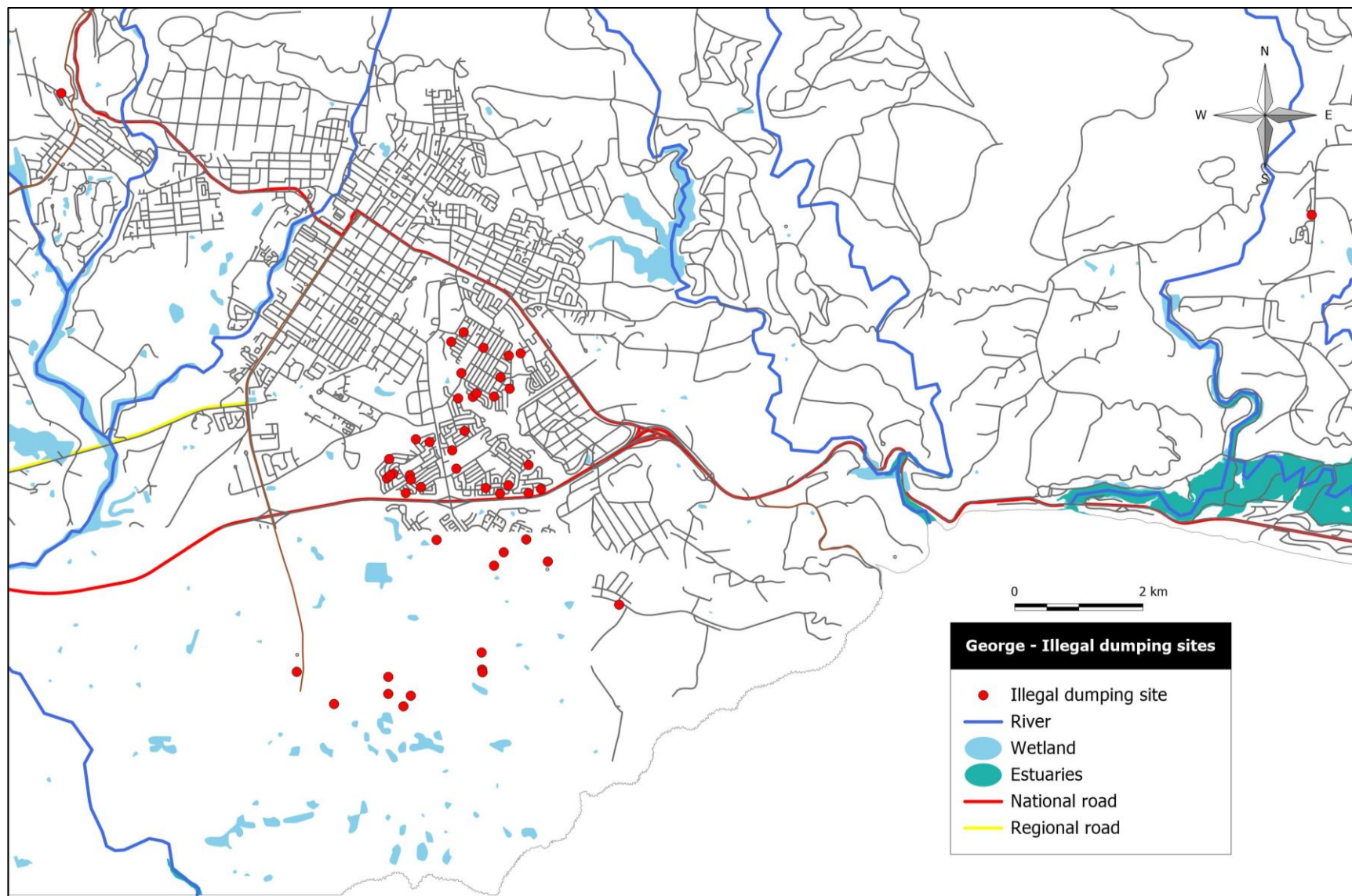


Figure 30: Illegal dumping hotspots in GLM

#### 6.17.4 Waste Awareness Campaigns

The GLM undertakes regular waste awareness campaigns. The GLM appoints a team of four environmental educators to undertake waste awareness campaigns. The team visits schools, communities and give talks and presentations of waste recycling initiatives.

Details of awareness campaigns undertaken during the previous 12 months are summarised below. Waste awareness also forms part of the contract for the service provider who is appointed to manage the GLM's separation at source (blue bag) programme.

**Table 55: Waste awareness campaigns**

Month	No. awareness campaigns	Campaign details
March 2018	2	ECO-Brick presentations at Holy Cross and Heidedal Primary schools
April 2018	3	Presentation of Eco-Bricks to Boy Scouts
May 2018	3	<ul style="list-style-type: none"> <li>Radio slot on Eden FM – waste handling</li> <li>Recycling Day – hosted four schools at a tour of the George transfer station</li> <li>ECO-Brick demonstration pilot of Heidedal primary school</li> </ul>
June 2018	2	World Environmental Day – launched a competition on the cleanest street in Blanco Attended Eden District Recycling Roadshow
July 2018	2	Mandela Day-Awareness and cleanup in Thembaletu Molen River in Matros Street Waste Characterisation Study on refuse collection-training with Eden Municipality
August 2018	1	Waste characterisation study
September 2018	0	-
October 2018	4	<ul style="list-style-type: none"> <li>Awarding the trophy to the winner of the cleanest street competition</li> <li>Research based on Eco-brick project</li> <li>Collecting materials, non-recyclable materials, 2 litre bottles from transfer station and through clean-up projects in the community dumpsites/ streets</li> <li>Clean-up and handing over of refuse wheelie bins to existing small businesses</li> </ul>
November 2018	2	<ul style="list-style-type: none"> <li>Collecting materials, non-recyclable materials, 2 litre bottles from transfer station and through community dumpsites/ streets</li> <li>19th Radio interview on Eden FM</li> </ul>
December 2018	1	Eco-brick project at Holy Cross Primary School. A structure made of eco-bricks will be put-up
January 2019	0	
February 2019	0	
<b>Total</b>	<b>20</b>	

The GLM has a variety of waste awareness leaflets which are handed out at awareness events.





Figure 31: Illegal dumping flyer used by GLM

Some street bins are branded with waste awareness messages, there are also notice boards which were installed as part of a district waste awareness campaign.



Figure 32: Examples of waste awareness branding on bins, billboards and waste compactor trucks

The GLM should consider aligning future waste awareness events with the following national environmental days:

- National Cleanliness Day - January
- International Earth Hour - April
- International Compost Awareness week- May
- World Environment Day - June
- World Oceans Day- June



- 
- International Coastal Clean-up Day - September
  - Clean-up and Recycle South Africa week September

#### 6.17.5 George Solid Waste Diversion Plan

A Solid Waste Diversion Plan was drafted for GLM in 2017. The plan includes a detailed review of the status quo of waste diversion in GLM and provides recommendations for increasing waste diversion. The following recommendations are presented in the plan:

- **Public awareness:** implement a public awareness programme to promote separation at source and home composting
- **Recycling:** extend the separation at source programme to middle and high income groups and investigate swap swaps in low income areas
- **Composting of green waste:** extend the garden waste separation programme and ban all garden waste from landfill to encourage composting
- **Crushing of builder's rubble:** crushing of builder's rubble through a tender process
- **Food waste:** source separation of food waste for composting with green waste. A strategy for anaerobic digestion is also recommended this strategy would need to identify additional organic waste streams.
- **Waste-to-Energy:** At present GLMs waste volumes are too low for waste-to-energy projects, the feasibility should be reassessed in the medium term as technology options may become available.
- **Waste disposal:** GLM's only option is to dispose of waster at the PetroSA landfill site

#### 6.17.6 Western Cape Awareness Strategy

The Waste Awareness Strategy was published by DEA&DP in March 2018. The strategy aims to increase public awareness around waste management to reduce littering and illegal dumping, increase waste minimisation and maximise opportunities in waste management.

The strategy reviews various mechanisms for increase waste awareness such as signage, events, media campaigns and assess the positive and negatives of these mechanisms.

The strategy assesses gaps and needed in terms of waste awareness campaigns per district municipality. The following gaps and needs were identified for the GRDM:

- Most of the public awareness is driven by the GRDM, very little is undertaken by the local municipalities
- There is a gap in terms of promotion items, events greening, youth jobs and informal settlements
- Strategies need to be developed which are aimed at specific industries and low income and informal residential areas
- Major events need to be used to increase awareness

### 6.18 Complaints

The GLM records incoming complaints on the collaborator system. In 2018, a total of 688 complaints were received. The majority of complaints (64%) related to a dumping of waste.

**Table 56: Waste management complaints (01/01/2018 – 31/12/2018)**

Complaint/ service request	No. complaints
Garbage removal	245
General dumping complaints	443
<b>Total</b>	<b>688</b>

## 6.19 Waste Management Fleet

The waste management fleet is managed by the municipal fleet management. The GLM's policy is to replace two truck per year. At present the refuse collection fleet consists of 16 operational trucks and 9 trucks that are in for repairs or going to sold. The backups are typically older vehicles with higher mileage or higher fuel consumption.

**Table 57: Waste management fleet**

Vehicle make	Model	Type of vehicle
<b>Operational compactors</b>		
NISSAN CM 12 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 12m <sup>3</sup> AUTOMATIC
NISSAN UD 90 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN UD 90 12m <sup>3</sup> AUTOMATIC
NISSAN UD 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN UD 12m <sup>3</sup> AUTOMATIC
NISSAN UD 12 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN UD 12 12m <sup>3</sup> AUTOMATIC
NISSAN UD 12 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN UD 12 12m <sup>3</sup> AUTOMATIC
NISSAN UD 12 12m <sup>3</sup> AUTOMATIC	Nissan	NISSAN UD 12 12m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
<b>Non-Operational</b>		
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
ISUZU F8000 12m <sup>3</sup> AUTOMATIC	Isuzu	ISUZU F8000 12m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
NISSAN CM 12 15m <sup>3</sup> AUTOMATIC	Nissan	NISSAN CM 12 15m <sup>3</sup> AUTOMATIC
Bell TLB on Tip site	Bell	Bell TLB on Tip site
MST52 TLB		MST52 TLB
MST52 TLB		MST52 TLB
<b>Skip trucks</b>		
UD TRUCKS UD90 COMPACTOR		UD TRUCKS UD90 COMPACTOR
UD TRUCKS P9156		UD TRUCKS P9156
UD TRUCKS P9156		UD TRUCKS P9156
UD TRUCKS P9156		UD TRUCKS P9156
UD TRUCKS P9156		UD TRUCKS P9156
<b>Other vehicles</b>		
Bell TLB on Tip site	Bell	Bell TLB on Tip site
Bull Dozer - Caterpillar	Bell	Bull Dozer - Caterpillar



Figure 33: Photo plate the waste trucks within the GLM

## 6.20 Waste Management By-Laws

### 6.20.1 Garden Route District Municipality

The GRDM's current waste management by-laws were promulgated in 2017. The by-laws applicable to all areas of jurisdiction in the GRDM which includes the GLM.

The by-laws define a municipal waste collection services to cover domestic waste and general business waste only.

The by-laws also identify the municipalities which are obliged to make sure of municipal waste disposal services provided by GRDM, these municipalities are the Mossel Bay Local Municipality (MBLM), George local municipality (GLM), Knysna local municipality (KLM) and Bitou local municipality (BLM).

The by-laws allow GRDM to establish a waste information management system. All persons who are conducting an activity listed in terms of Annexure 1 of the National Waste Information Regulations (GN 625 of 2012). Registrations should have been submitted within 90 days of the by-laws coming into effect.

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### 6.20.2 George Local Municipality

A brief review of the GLM by-laws related to waste management was undertaken as part of the IWMP. This review does not constitute a full legal review and was only undertaken to identify key gaps in the by-laws.

The Integrated Waste Management by-laws (2014) cover the following:

- Definitions
- Purpose of by-laws
- Applicable legislation
- Duties and powers of municipality
- Compulsory use of service
- Establishment and control of disposal site
- Access to disposal site
- Off-loading of waste
- Ownership of waste
- Categories of waste
- Separation of waste
- Provision of waste bins
- Location of waste bins
- Maintenance of waste bins
- Collection of waste
- Access to premises
- Right of entry
- Dumping and littering
- Burning of waste
- Charges
- Exemptions
- Liaison forums in community
- Authentication and service of order, notice or other document
- Appeal
- Penalties
- Revocation of by-laws
- Short title and commencement

The fines outline the procedure to be followed in the event of illegal dumping or littering-laws. The by-laws allow the GLM to recover the cost of removal of litter or illegal dumping but do allow fines to be issued on top of removal costs. The by-laws also lack a fining schedule.

### 6.20.3 Enforcement of By-Laws

The GLM law enforcement department are responsible for the enforcement of all municipal by-laws. At present there are no dedicated enforcement officers for the waste management by-laws.

## 6.21 Institutional Management

### 6.21.1 Waste Management Officer

Mrs Janine Fernold is the Waste Manager for GLM is also designated as the Waste Management Officer in terms of the Waste Act.

### 6.21.2 Organogram

The GLM organogram for the Solid Waste Environmental Health Services last reviewed in 2017. There are a total of 458 permanent positions in the organogram of which only 112 are filled.

All three of administrative positions in the organogram are vacant, this is concern as administrative support is essential in ensuring the waste management department functions are required, particularly in terms of data and information management.

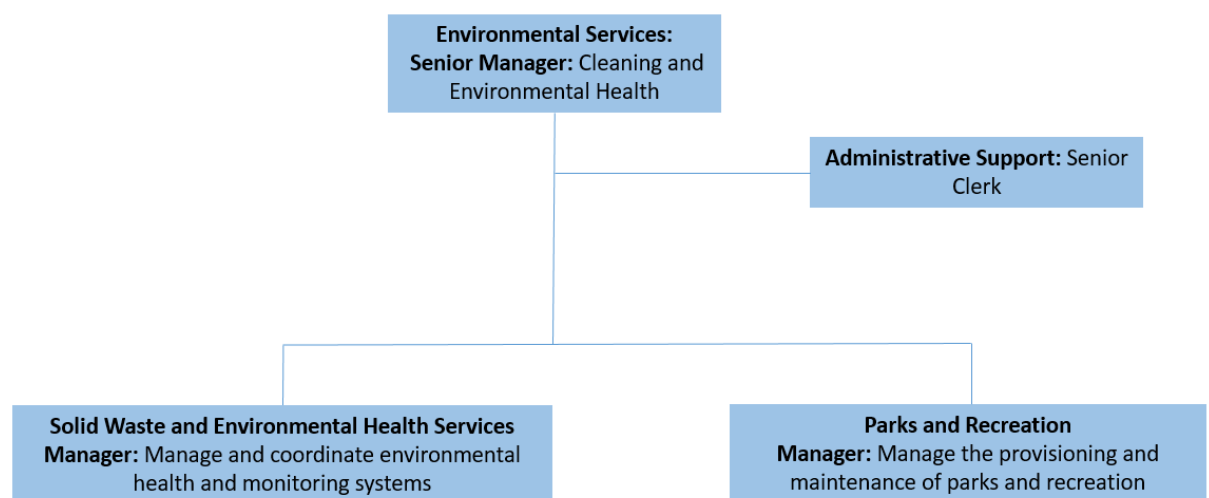
**Table 58: Waste management organogram (permanent positions)**

Position	No. positions	No. positions filled
<b>Environmental Services: Senior Manager</b>	1	1
<b>Administrative Support</b>	1	0
<b>Solid Waste and Environmental Health Services Manager</b>	1	1
<b>Parks and Recreation Manager</b>	1	1
<b>Administrative Assistant</b>	1	0
<b>Solid Waste Management</b>	1	1
Environmental Health	1	0
Environmental Health Practitioner	3	1
Environmental Officers	1	0
General Assistant	1	0
<b>Transfer Station</b>		
Foremen	1	1
Handy man (x2)	2	0
Front loader (x2)	2	1
Refuse removal Assistants (x7)	7	4
EPWP (x30) Recycling	30	-
<b>Weighbridge</b>		
Driver Operator	1	1
<b>Docking Station</b>		
Heavy Driver Operator	1	1
<b>Public Facilities</b>		
Supervisor Driver	1	0
General Assistant (x8)	8	4
<b>Uniondale &amp; Haarlem refuse removal, parks, open space and transfer station</b>		
Superintendent	1	0
Supervisor	1	1
HV Driver	1	1
Tracker Diver	1	1
General Assistant (x6)	6	3
<b>Composting</b>		
Foreman	1	1
Operator (x3)	3	3
General Assistant (x6)	6	6
<b>Greenest Town</b>		
Project Coordinator	1	1
Foreman	1	1
Environmental Educators (x6)	6	0
<b>War on-Waste</b>		
Project Coordinator's (x2)	2	1
Foreman	1	0
Environmental Educators (x6)	6	0
Supervisor (x3)	3	0
10 x Contractors and Workers	10	-
79 x Contractors and Workers	79	-

Position	No. positions	No. positions filled
Driver Operator: JCB	1	1
Driver Operator (x4)	4	2
Supervisor (x3)	3	0
10 x Contractors and Workers	10	-
79 x Contractors and Workers	79	-
Superintendent	1	1
<b>Landfill Site</b>		
Supervisor driver	1	1
Refuse Removal Assistant (x3)	3	3
<b>Street Cleansing</b>		
Foremen	1	0
Supervisor driver	1	1
General Assistant (x14)	14	6
Go Green Bus Route and Transport Hub General Assistant (x44)	44	0
EPWP (x24)	24	-
<b>Refuse Removal</b>		
Administrative Assistant	1	1
Foreman	2	1
Senior Supervisor / Driver (x15)	15	10
Refuse Removal Assistant (x60)	60	49
<b>Total</b>	<b>346</b>	<b>112</b>

**Table 59: Waste management organogram (contract positions)**

Position	No. positions	No. positions filled
<b>Transfer Station</b>		
EPWP (x30) Recycling	30	-
<b>War on-Waste</b>		
20 x Contractors and Workers	20	-
158 x Contractors and Workers	158	-
<b>Street Cleansing</b>		
EPWP (x24)	24	-
<b>Total</b>	<b>232</b>	<b>-</b>



**Figure 34: Senior management organogram**

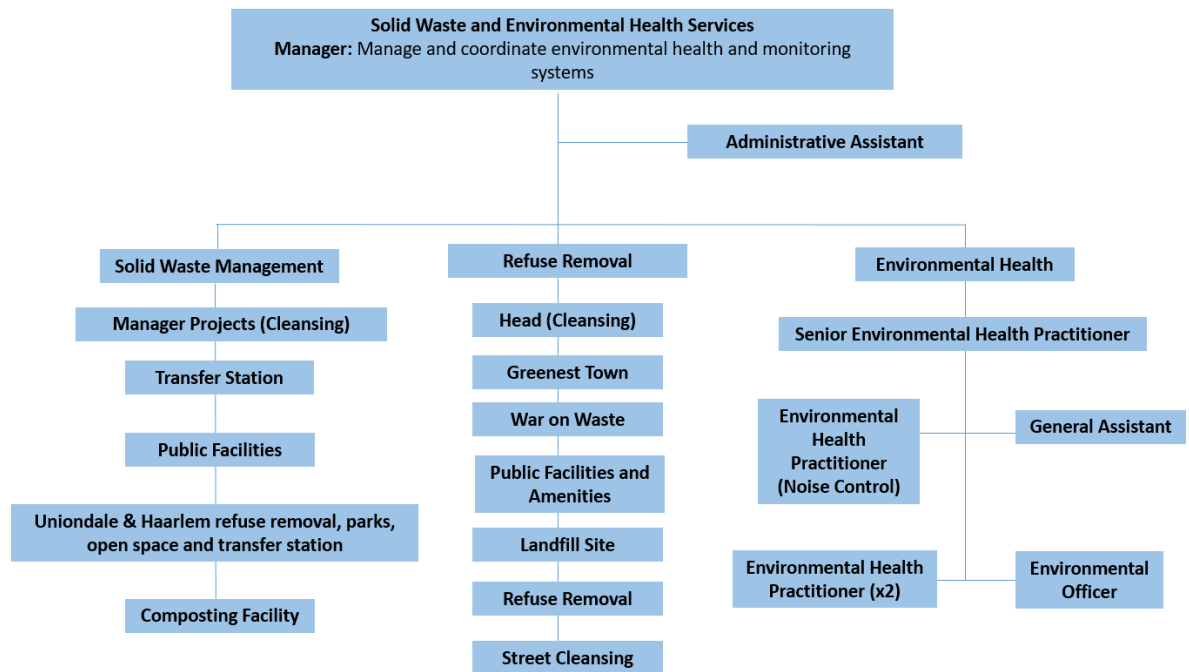


Figure 35: Solid Waste and Environmental Health Services organogram

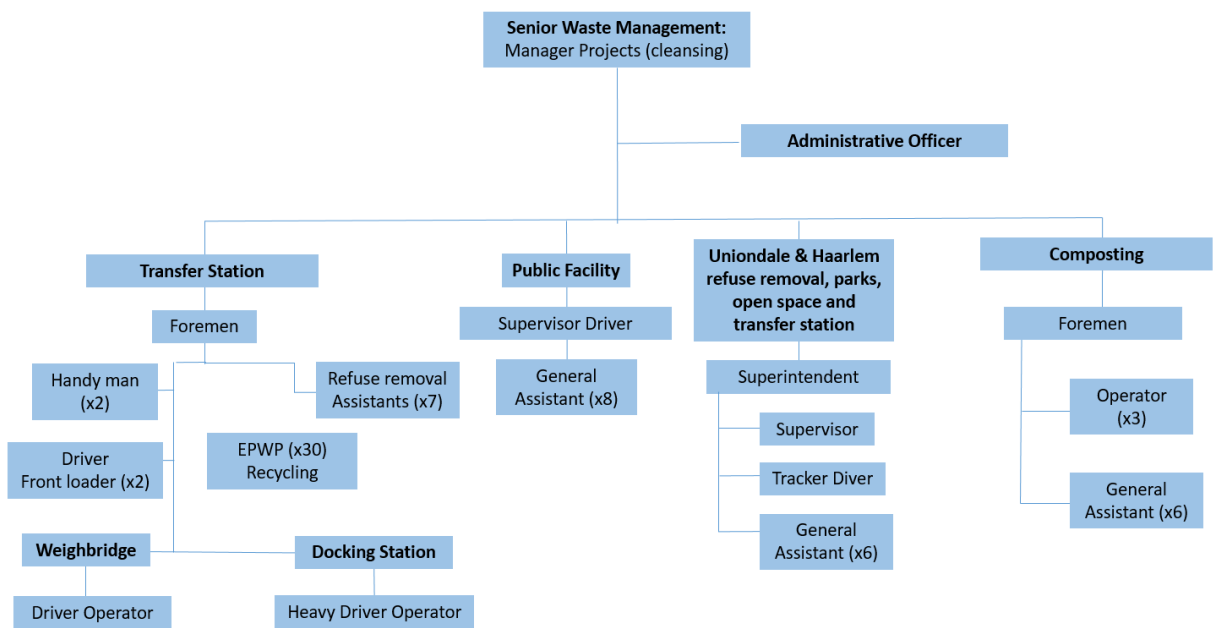


Figure 36: Senior waste management organogram

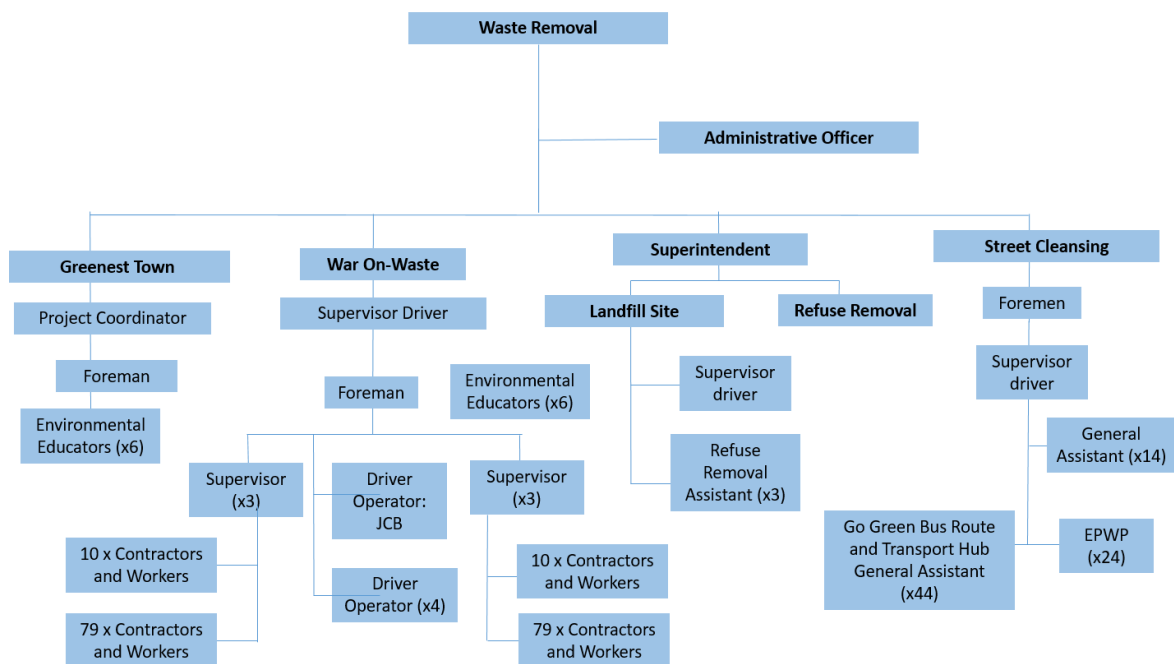


Figure 37: Waste removal organogram

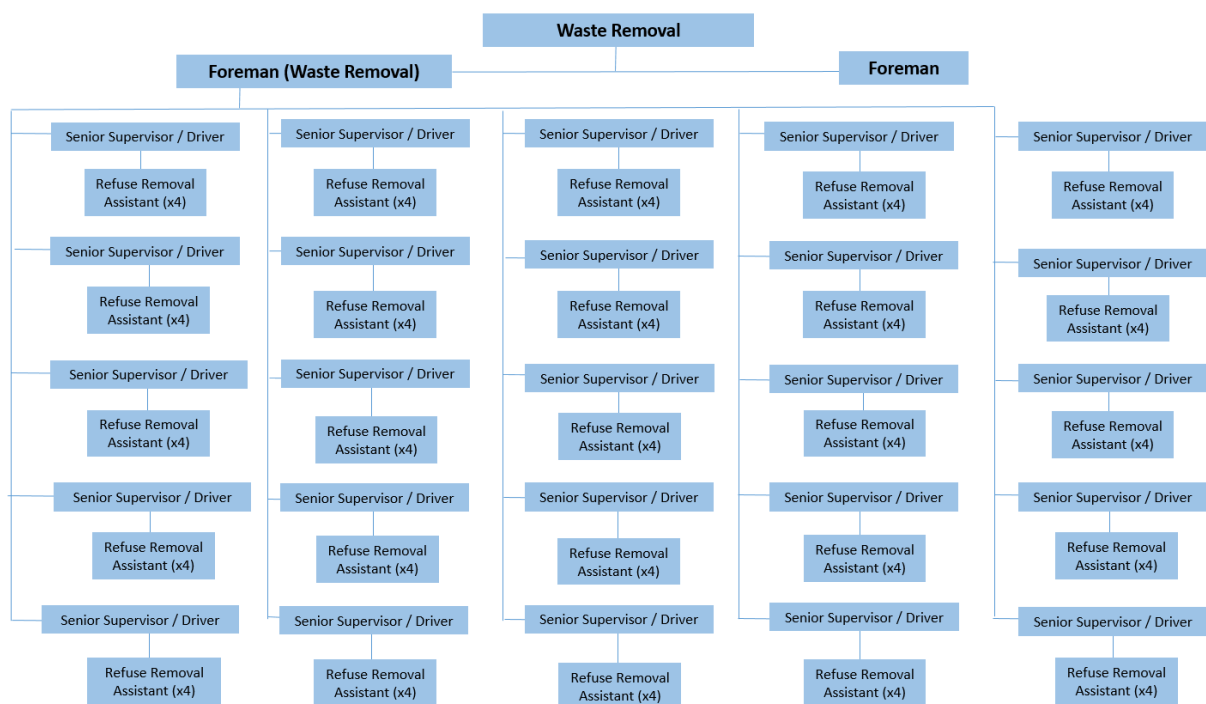


Figure 38: Waste removal organogram

### 6.21.3 Training

The GLMs Human Resources department is responsible for the co-ordination of training. Employees in the waste department receive training based on their existing skills and the needs of the employees.

Employees indicated that they need more training to be provided to them.



## 6.22 Financial Management

A detailed understanding of the operational and capital costs of waste management is key for ensuing correct financing of waste management. When considering the financing of waste management operational costs, capital costs, recapitalisation costs and rehabilitation costs all need to be considered.

### 6.22.1 Waste Management Tariffs

The GLM has not yet undertaken a full cost accounting exercise to determine the true cost of waste management services. An annual review of the GLM waste management tariffs are undertaken. The tariff for a domestic refuse service is detailed below as an example of how tariffs have changed over the past few years.

**Table 60: GLM waste tariff history for residential collection once a week**

Year	Waste management tariff	Percentage increase
2019/20	R207.71/ month	9.0%
2018/19	R 190.56/ month	13.0%
2017/18	R 165.70/ month	13.0%
2016/17	R 144.08/ month	15.8%
2015/16	R 121.25/ month	-

The increase (13%) in tariffs over the last two financial years is due to the planned commencement of the regional landfill site. Once the regional landfill site is constructed and operational the GLMs disposal fees will increase as they switch to using the regional site.

### 6.22.2 Equitable Share

Equitable share is a grant from national treasury provided to municipalities to provide basic services to poor households and to assist municipalities with limited resources to perform basic core municipal functions.

For the 2018/19 financial year the equitable share is R383.12 per household per month. Of the total allocated equitable share value R80.28 is allocated to waste services. This is split between operations (R72.25) and maintenance (R8.30) (National Treasury, undated).

The equitable share is calculated based on the number of indigent households per municipality. When indigent registers are out of date municipalities may underestimate the number of indigent households and therefore not receive the full equitable share due to them.

**Table 61: Equitable share per Province (source, web reference 5)**

Province	2018/19 Allocation	Forward Estimates	
		2019/20	2020/21
	R'000	R'000	R'000
Eastern Cape	65 499 660	69 807 213	74 411 439
Free State	26 178 043	28 071 076	30 108 091
Gauteng	93 384 285	100 923 135	109 092 089

Province	2018/19 Allocation	Forward Estimates	
		2019/20	2020/21
KwaZulu-Natal	99 263 681	106 363 502	113 997 676
Limpopo	55 178 775	59 187 820	63 503 149
Mpumalanga	38 467 686	41 394 597	44 554 600
Northern Cape	12 475 021	13 403 527	14 404 557
North West	32 391 895	34 788 928	37 372 220
<b>Western Cape</b>	<b>47 447 464</b>	<b>51 079 855</b>	<b>55 003 034</b>
<b>TOTAL</b>	<b>470 286 510</b>	<b>505 019 653</b>	<b>542 446 855</b>

In the 2019 IDP 14,413 households in GLM were registered as indigent or poor in 2017. This is an increase from the 2007 figures.

**Table 62: Indigent and poor households in GLM (source: GLM 2019 IDP)**

Household type	2007	2017
Indigent	10 112	14 413

The GLM budget shows an income of R40,200,513 through equitable share for provision of free waste management services.

### 6.22.3 Waste Management Budget

The Waste Management Department at GLM has a ringfenced budget. A summary of the waste management budget and income and expenditure is shown below.

#### (a) Capital Budget

A total of R18,738,343 has been allocated for capital items in the 2019/20 budget.

**Table 63: Waste management capital budget (2019/20)**

Item	Budget
Bakkies - foremen - refuse removal	R320,000
JCB with rubber wheels	R63,000
Refuse truck	R1,500 000
Skip truck	R2,000 000
Refuse compactor - Nissan replacement	R100,653
Bin lifters	R801,800
Transfer facility Uniondale	R2,279,433
Recycling equipment - transfer station	R800,000
Furniture for transfer station	R20,000
Equipment for laundry at transfer station	R150,000
Extension of transfer station	R1,766 220
Transfer station generator	R144,997
Rehabilitation of the landfill site	R5,233,029
Rehabilitation of the Uniondale landfill site	R500,000
Building of composting plant	R1,500,000

Item	Budget
Skips - refuse (50)	R500,000
Weed eater - cleansing services	R7,500
Upgrading public toilets	R386,587
Upgrade of cleansing camp	R100,000
Upgrade of refuse camp	R565,124
<b>Total</b>	<b>R18,738,343</b>

The following items have been identified in the capital budget but no budget has been allocated:

- Bulk refuse containers
- Weighbridge for the transfer station
- Under roof parking for vehicles and machinery

(b) Waste Management Revenue

The following summary of revenue for the waste department has been provided by the GLM. The major sources of income are tariffs from waste service provision and equitable share from the National Revenue Fund.

**Table 64: GLM waste management revenue (2019/2020)**

Item	Original Bud	Amended Budget	Description
Default	R639,920.00	R639,920.00	
Receivables: Waste Management	R938,000.00	R938,000.00	Interest, Dividend and Rent on
Ad-hoc rentals: Solid Waste Infrastructure	R230,400.00	R230,400.00	Rental from Fixed Assets, ad-hoc rentals property, plant and equipment
Sales of Goods and Rendering of Services: Legal Fee	R2,160.00	R2,160.00	Sales of Goods and Rendering o
Sales of Goods and Rendering of Services: Development	R259,700.00	R259,700.00	Sales of Goods and Rendering o
Waste Management: Refuse Bags	R7,892.00	R7,892.00	Service Charges, refuse bags
Waste Management: Refuse Removal	R149,419,976.00	R149,419,976.00	Service Charges, refuse removal
Waste Management: Waste Bins	R9,260,575.00	R9,260,575.00	Service Charges, waste bins
Expanded Public Works Programme Integrated Grant	R81,000.00	R81,000.00	Transfers and Subsidies, National government, EPWP
Equitable Share	R40,200,513.00	R40,200,513.00	Transfers and Subsidies, National Revenue Fund, Equitable Share
<b>Total</b>	<b>R201,040,136.00</b>	<b>R201,040,136.00</b>	

(c) Waste Management Expenditure

Employee related costs and contracted services are the two largest expenses to the waste department. Both of these items have an annual expenditure of approximately R32 million each

Table 65: GLM waste management expenditure (2019/20)

Operational area	Item/ description	Original Bud	Amended Budget
Refuse Removal	Bad Debts Written Off	R 4 914 710.00	R 4 914 710.00
Refuse Removal	Bulk purchases	R 2 193 820.00	R 2 193 820.00
Dumping Site	Business and Advisory	R 250 000.00	R 260 000.00
Dumping Site	Contracted/ outsourced services	R 6 049 410.00	R 7 064 410.00
Public Toilets	Contracted/ outsourced services	R 326 840.00	R 326 840.00
Refuse Removal	Business and advisory	R 12 500 000.00	R 10 590 000.00
Refuse Removal	Contracted/ outsourced services	R 11 620 650.00	R 10 180 650.00
Street cleaning	Contracted/ outsourced services	R 1 277 300.00	R 1 217 300.00
Public Toilets	Default	R 311 480.00	R 311 480.00
Refuse Removal	Default	R 3 999 940.00	R 3 999 940.00
Solid Waste Disposal	Default	R 374 610.00	R 374 610.00
Street Cleaning	Default	R 605 630.00	R 605 630.00
Refuse Removal	Bulk purchases	R 2 141 320.00	R 2 141 320.00
Dumping Site	Employee Related Cost - Salary & benefits	R 799 184.00	R 799 184.00
Public Toilets	Employee Related Cost - Salary & benefits	R 583 024.00	R 583 024.00
Refuse Removal	Employee Related Cost - Salary & benefits	R 26 957 317.00	R 27 218 317.00
Solid Waste Disposal	Employee Related Cost - Salary & benefits	R 4 469 058.00	R 4 589 058.00
	Interest Paid: Finance Leases/ annuity loans	R 861 110.00	R 861 110.00
Dumping Site	Inventory and consumables	R 501 120.00	R 501 120.00
Public Toilets	Inventory and consumables	R 147 190.00	R 147 190.00
Refuse Removal	Inventory and consumables	R 5 451 710.00	R 5 350 710.00
Street cleansing	Inventory and consumables	R 529 210.00	R 529 210.00
Dumping Site	Operating leases - communal assets and transport assets	R 844 950.00	R 844 950.00
Public Toilets	Operating Leases: Community Assets	R 61 800.00	R 61 800.00
Dumping Site	Operational Cost - Insurance, printing, workmen's compensation, car rental	R 369 330.00	R 369 330.00
Public Toilets	Operational Cost - Insurance, printing, workmen's compensation, car rental	R 37 330.00	R 37 330.00
Refuse Removal	Operational Cost - Insurance, licenses, accommodation, printing, PPE, workmen's compensation fund, conferences	R 3 633 940.00	R 5 333 940.00
Solid Waste Disposal	Operational Cost - Advertising, Publicity and Marketing: Tenders	R 6 740.00	R 6 740.00
Street Cleansing	Operational Cost - Insurance, licenses, accommodation, printing, PPE, workmen's compensation fund, conferences	R 85 540.00	R 85 540.00
<b>Total</b>		<b>R 91 904 263.00</b>	<b>R 91 499 263.00</b>

## 6.23 Institutional Framework

### 6.23.1 District Waste Management Forum

The municipal WMOs are invited to attend district waste management officers forums which are held on a quarterly basis. The quarterly meetings cover waste management issues, legislation updates and waste policies. These meetings are led by the GRDM.

The forums typically cover the

- Updates on policy and legislation
- Reports from local municipalities
- Waste management licensing and waste management facility registrations

There is currently no standard presentation or template which WMOs use to provide feedback at these sessions.

## 6.24 Waste Employee Interviews

Interview were undertaken with a range of GLM employees, from general workers to the waste manager and financial officer. Comments and concerns raised during the interviews are listed below. The comments/ concerns have been grouped according to common themes.

**Table 66: Comments/ concerns raised through GLM employee interviews**

Category	Comments
Waste management fleet	<ul style="list-style-type: none"><li>• Trucks frequently breakdown (due to the age of the trucks)</li><li>• Trucks are also overused</li><li>• Some trucks aren't equipped with winch systems for lifting wheelie bins</li><li>• The routes always get changed, this is due to breakdowns</li><li>• Issues to get to all the collection area due to a lack of staff and vehicles</li><li>• There are a lack of vehicles for the waste awareness team, they have to use their own transport</li></ul>
Waste collection	<ul style="list-style-type: none"><li>• The public do not adhere to refuse collection service, bags are not put out on the correct day or time, different colour bags are not used correctly</li><li>• Dead animals, usually dogs and cats are put into refuse bags or left out in the street for the refuse collection team</li><li>• Informal pickers tear open bags to access food or recyclable materials, the causes litter</li><li>• Illegal dumping is a concern</li><li>• Waste skips is burnt by the public</li></ul>
Health and hygiene	<ul style="list-style-type: none"><li>• There are no shower facilities available at the depots for general works and truck drivers to use after shifts. Employees therefore have to go home in dirty work clothes</li><li>• The waste collectors are exposed daily to fumes from refuse trucks as they spend a lot of time running behind the truck, this impacts on their health.</li><li>• There is no safety inspection to checks on safety equipment on the refuse trucks.</li><li>• Staff quarters are not up to standard, as when it rains staff get wet in the quarters</li><li>• All trucks should have a first aid safety kit</li><li>• The waste awareness team sometimes have to work in unsafe areas</li></ul>
PPE	<ul style="list-style-type: none"><li>• Safety boots get worn out quickly due to the working conditions, it can sometimes</li></ul>

Category	Comments
	<p>take a long time to get new boots if there are none in the stores.</p> <ul style="list-style-type: none"> <li>• The gloves and overalls given to general workers are thin and poor quality. They do not protect against broken glass in refuse bags</li> <li>• Staff get PPE only once a year at the end of the year.</li> <li>• More safety glasses and masks for protection need to be handed out the staff.</li> </ul>
Training	<ul style="list-style-type: none"> <li>• Employees do not receive sufficient training. Older staff have received training, but the newer staff have not had any training.</li> <li>• Staff go do training in their own time, such as truck driver training. This to help promote themselves within the department.</li> </ul>
Illegal dumping	<ul style="list-style-type: none"> <li>• Vehicles are hired to clean up illegal dumping, this is big expense for the municipality</li> <li>• Illegal dump sites are cleaned but repeat dumping occurs</li> <li>• There is no fine schedule in the waste by-laws</li> <li>• The public do not get a response from law enforcement when complaints about illegal dumping are lodged</li> </ul>
Staff	<ul style="list-style-type: none"> <li>• Part-time staff are hard to manage, as they need training and guidance. This is a problem as they on-site for 3 to 6 months, and may take this time to just get training and learn the job. Once the 3 to 6 months is over new staff come to site and need training. This impacting on the day to day operations as staff are always looking out for the new staff or training them.</li> <li>• Some staff aren't educated, so communication is hard within the team.</li> <li>• There are different cultures within the teams</li> <li>• Staff are not always motivated, as they feel unappreciated.</li> </ul>

## 7 Way Forward for Waste Management Facilities

As previously mentioned both Uniondale and Gwaing (George) landfill sites have been issued with closure licenses and closure of both sites must commence in 2024 and be completed by 2029.

The following table presents that way forward for the various waste management facilities in the GLM.

**Table 67: Way forward for waste management facilities**

Waste management facility	Proposed future use	Engineering works required	Estimated cost	Reference
Uniondale landfill site	Closure to commence by 24 September 2024 and be completed by 29 September 2029.	<ul style="list-style-type: none"> <li>• Site Preparation</li> <li>• Capping based on WML requirements</li> <li>• Stormwater Drainage</li> <li>• Leachate control</li> <li>• Transfer Station</li> <li>• Maintenance to Existing Site</li> </ul>	R 8,648,688.66	George Municipality Waste Disposal Facility Cost Estimates:  Future Rehabilitation Costs for Waste Facilities for George Municipality based on 2017/2018 Rates
Gwaing (George) landfill site	Closure to commence by 10 November 2024 and be completed by 10 November 2029.	<ul style="list-style-type: none"> <li>• Site Preparation</li> <li>• Capping based on WML requirements</li> <li>• Stormwater Drainage</li> <li>• Leachate control</li> <li>• Boreholes</li> <li>• Movable Fencing</li> <li>• Security</li> <li>• Composting Facility</li> </ul>	R 22,964,326.44	George Municipality Waste Disposal Facility Cost Estimates:  Future Rehabilitation Costs for Waste Facilities for George Municipality based on 2017/2018 Rates
George Transfer Station	Continued operation and finalisation of construction of the MRF.			
Gwaing Closed Landfill	Site is closed and Rehabilitated			
Uniondale transfer station	Operation of the transfer station	-	-	-
George transfer station	Continued operation	-	-	-
George transfer station MRF	Development of a MRF at the George transfer station		R 8 800 000.00	George Municipality – Solid Waste Diversion Plan

## 8 Gap and Needs Assessment

This section presents the gaps and needs identified through the situational analysis review.

### 8.1 Gaps and Needs Identified in 2014 IWMP

The 2014 IWMP identified the following gaps in terms of waste management

**Table 68: Gaps identified in 2014 IWMP (GLM, 2014)**

Identified gaps	Progress made to address the gaps
<b>1. The lack of public awareness of the gravity of the problem of sustainable waste management.</b>	
<ul style="list-style-type: none"> <li>A large part of the general public appears to be content to put out their waste and then it is somebody else's problem. Concepts such as waste avoidance, waste reduction, etc., are not within their general vocabulary. This has improved in recent years, but informing the public and changing the unsustainable way of thinking that is still present must be addressed on an on-going basis.               <ul style="list-style-type: none"> <li>Not all residents are aware of the impacts of waste and the consequences of their littering</li> <li>Illegal dumping shows that these offenders are not in sync with the mind-set of sustainable waste management yet</li> </ul> </li> <li>GLM should undertake more awareness campaigns with the public, look to use vehicle banding for awareness and keep a record of all campaigns that have been conducted.</li> </ul>	<ul style="list-style-type: none"> <li>The GLM undertakes regular waste awareness campaigns. There were a total of 20 waste awareness campaigns last year.</li> <li>The GLM has appointed a team of four environmental educators to undertake waste awareness campaigns. The team visits schools, communities and give talks and presentations of waste recycling initiatives.</li> </ul>
<b>2. Lack of information regarding waste generation types and volumes.</b>	
<ul style="list-style-type: none"> <li>Only a part of the waste stream is measured. The industrial and medical waste streams are unknown at this stage.               <ul style="list-style-type: none"> <li>There is as yet no requirement in the Municipal Waste Management By-laws to provide mechanisms to obtain information on the industrial and medical waste streams.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>This report contains HCRW records obtained from the WCDoH. At present these records are not reported to the GRWIS. The GRWIS, does however collect data on HCRW generated by private facilities in the GRDM including GLM</li> <li>The GLM by-laws do not require generators of industrial, HCRW records and is lacking a fining schedule. However the GRDM by-laws which are applicable to GLM do make provision for the GRDM to request waste information from waste generators.</li> </ul>
<b>3. Collection Fleet – Age, Condition, Aesthetics, Type</b>	
<ul style="list-style-type: none"> <li>Collection vehicles in George Municipality, as is the case in almost all South African municipalities, are kept in service long after the end of their economic lives. Collection vehicles help in creating the public's perception of waste management and need to be aesthetically pleasing.               <ul style="list-style-type: none"> <li>Some vehicles are likely operating beyond their effective lifetimes. These</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The GLM's policy is to replace two truck per year.</li> <li>GLM at present have refuse collection fleet consists of 16 operational trucks and 9 trucks that are in for repairs or going to sold.</li> <li>The operational fleet is in a good condition.</li> </ul>



Identified gaps	Progress made to address the gaps
vehicles need to be evaluated to ensure that they are still cost effective and efficient. If not, they need to be replaced.	
<b>4. Lack of monitoring of facilities</b>	
<ul style="list-style-type: none"> <li>Waste management facilities must be regularly monitored and audited to comply with permit requirements or to ensure that they are operated in line with best practice up until permits have been acquired where needed. <ul style="list-style-type: none"> <li>The existing Uniondale landfill needs to be audited and operations brought in line with best practise. There is no full-time operator or gate control. A closure license is required and rehabilitation when the site is closed.</li> <li>The Gwaing builder's rubble and garden waste site needs to be closed and rehabilitated and requires a closure license.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The George (Gwaing) landfill site and the George waste management facility are both audited internally and externally. The Uniondale landfill site is not audited externally.</li> <li>The closure permits for both the Uniondale and Gwaing landfill sites have been obtained. Closure of Uniondale must commence by 24 September 2024 according to the license and Gwaing by 10 November 2024.</li> </ul>
<b>5. Lack of permitting of special waste generators</b>	
<ul style="list-style-type: none"> <li>The municipality has no or little data neither on the generators of special wastes within the municipal boundaries nor on the destination or disposal method of these wastes. <ul style="list-style-type: none"> <li>This must be addressed in the revision of the By-laws</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The GLM by-laws do not require HCRW or hazardous waste generators to report with the municipality. The GRDM by-laws do contain this requirement and are applicable to the GLM area.</li> </ul>
<b>6. Lack of disposal airspace</b>	
<ul style="list-style-type: none"> <li>The Uniondale waste disposal facility and the Gwaing garden waste and builder's rubble site are nearing capacity. Without alternatives the disposal of waste in a controlled and environmentally sound manner will be problematic.</li> <li>The useful lifetime of these sites must be assessed and backup measures put in place if these sites reach capacity before the Eden district site and the Uniondale extension are completed.</li> </ul>	<ul style="list-style-type: none"> <li>The closure permits for both the Uniondale and Gwaing landfill sites have been obtained.</li> <li>The site are both still operational although closure of both sites must commence in 2024.</li> </ul>
<b>7. Legislation</b>	
<ul style="list-style-type: none"> <li>The George Municipality by-laws do not include all the requirements identified in this document.</li> <li>The by-laws require: <ul style="list-style-type: none"> <li>The registering of health care risk waste generators at the Municipality</li> <li>The registering of hazardous waste generators at the Municipality</li> <li>The call for Industry Waste Management Plans</li> <li>Address minimisation and recycling</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The GLM by-laws do not require HCRW or hazardous waste generators to report with the municipality. The GRDM by-laws do contain this requirement and are applicable to the GLM area.</li> <li>The GLM by-laws do not include a requirement for industry waste management plans to be developed</li> </ul>
<b>8. Tariffs</b>	
<ul style="list-style-type: none"> <li>In most (if not all) municipalities, the tariff</li> </ul>	<ul style="list-style-type: none"> <li>The refuse tariffs for GLM are clearly defined and the</li> </ul>

Identified gaps	Progress made to address the gaps
structure for the use of waste disposal services is unclear and only escalated annually.	GLM is in the process of undertaking a full cost accounting exercise for all municipal tariffs including refuse.
<b>9. Rural areas and farms</b>	
<ul style="list-style-type: none"> <li>Remote areas in the Municipality should have access to waste disposal. Where collection in these areas are not feasible for the Municipality, an agreement can be made with e.g. the farm owners to be able to dispose their waste at the Municipal sites at lowered fees. Illegal sites (if any) must be closed.</li> </ul>	<ul style="list-style-type: none"> <li>The GLM does not charge for the use of its landfill sites. None of the municipal landfill sites accept domestic waste, however the GLM transfer station accept domestic waste and skips for domestic waste have been placed at the Uniondale landfill site and George Transfer station.</li> <li>GLM have put out skips in the outlining communities.</li> </ul>

As can be seen a number of the gaps identified in the 2014 IWMP have been addressed over the last five year period.

## 8.2 Gaps and Needs Identified in 2020

During the development of the 2020 GLM IWMP a number of gaps and needs have been identified. Gaps and needs were identified based on interviews with stakeholders, inspections of fleet and facilities and a review of legislation and best practice guidelines.

Gap and needs have been listed under the following headings:

1. Waste service provision
2. Waste minimisation and recycling
3. Organic waste management
4. Hazardous waste management
5. Waste management facilities
6. Waste management fleet and equipment
7. Waste information management
8. Waste education and awareness
9. By-laws and enforcement of by-laws
10. Institutional functioning
11. Future planning

**Table 69: Waste management gap and needs**

Legislated Requirements/ Best Practice	Gaps	Needs
<b>1. Waste Service Provision</b>		
<ul style="list-style-type: none"> <li>The NWMS 2011 requires 95% of urban and 75% of rural households to have access to adequate levels of waste collection services. Non-recyclable waste must be collected weekly from households as a minimum</li> <li>The National Policy for Provision of Basic Refuse Removal Services to Indigent Households (GN 413 of 2011) requires municipalities to provide free receptacles for waste storage to indigent houses</li> </ul>	<ul style="list-style-type: none"> <li>1.7% households use their own refuse dump.</li> <li>4% of households receive a collection service less frequently than weekly</li> <li>Businesses have identified that they do not received a consistent waste collection service. As such some now use of private service providers.</li> </ul>	<ul style="list-style-type: none"> <li>The GLM is providing a good waste management collection services to the majority of households. However, households which are not receiving a service need to be identified to determine if provision of a service to these households is feasible.</li> <li>All households receiving a collection service must receive at least a weekly collection service, at present 4% are serviced less frequently.</li> <li>There is need for better fleet management and acquiring more vehicles, to ensure waste is collected as per collection schedules and from business.</li> </ul>
<b>2. Waste Minimisation and Recycling</b>		
<ul style="list-style-type: none"> <li>The NWMS, 2011 sets a target of a 25% diversion rate of recyclables by 2016</li> <li>The draft 2018 NWMS sets a target of 50% diversion of waste by 2023 and 65% diversion by 2028</li> <li>Operation Phakisa sets a target of 50% diversion of municipal waste by 2023</li> <li>The Western Cape Provincial IWMP sets a target of a 20% diversion rate of recyclables by 2019, this is a national target as indicated in the National Medium Term Strategic Framework (MTSF) Outcome 10 target</li> <li>The draft 2018 NWMS requires all municipalities to include provisions for drop-off/ buy back centres in their IWMPs</li> <li>The Waste Act requires municipalities to put in place measures that seek to reduce the amount of waste generated, and where generated, measures to ensure that it is re-used, recycled and recovered, treated and disposed of.</li> <li>The NDWCS require municipalities to provide an enabling environment for recycling</li> </ul>	<ul style="list-style-type: none"> <li>Only approximately 20% of domestic, commercial and industrial waste is recycled in the GLM</li> <li>Only approximately all of the households are participating in the separation at source programme</li> <li>No records are available for in-house recycling occurring in GLM offices</li> </ul>	<p>The quantity of waste being recycled in GLM needs to be increased through:</p> <ul style="list-style-type: none"> <li>Increasing participation of households in the separation at source programme – increased education and awareness.</li> <li>Provision of easily accessible recycling drop-off facilities for households which do not use a kerbside collection service.</li> <li>Increased awareness around the importance of recycling. This can be achieved through school competitions.</li> <li>A swap shop or buyback centre should be piloted in a low income area in the GLM. The swap shop/ buy-back should be developed in partnership with a school or non-profit organisation.</li> <li>The service provider must be requested to provide volumes for waste collected from GLM offices. The GLM offices could be issued with different colour bags to households to allow the service provider to differentiate between the waste generators.</li> <li>The GLM should consider appointing a champion per office to manage the in-house recycling programme.</li> </ul>
<b>3. Organic waste management</b>		
Diversion of organic waste from landfill sites is required in order to save landfill site airspace, reduce negative impacts associated with disposal of organic waste to landfill and meet		

Legislated Requirements/ Best Practice	Gaps	Needs
legislated targets		
<ul style="list-style-type: none"> <li>The National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) – 25% diversion rate of garden waste from landfill by 2018 and 50% by 2023</li> <li>Western Cape Provincial IWMP – 50% diversion of organic waste by 2022 and 100% diversion rate by 2027</li> </ul>	<ul style="list-style-type: none"> <li>At present the majority of organic waste generated in GLM is disposed of at landfill.</li> <li>The GLM does not have any large scale facilities for composting of organic waste</li> </ul>	<ul style="list-style-type: none"> <li>The GLM are in the process of developing a composting facility for green waste.</li> <li>The GLM to provide easily accessible drop-off facilities for green waste</li> <li>Food waste diversion can be increased through rolling out of the home composting project to additional houses</li> </ul>
	<ul style="list-style-type: none"> <li>When the Uniondale and Gwaing landfill sites close there will be nowhere for the public to drop-off green waste</li> </ul>	<ul style="list-style-type: none"> <li>Facilities should be added at the George and Uniondale transfer stations acceptance of green waste. A small chipper may be needed to assist with management of green waste at the transfer stations.</li> <li>GLM to provide awareness and information to the public as to where waste can be taken to upon the closure of the landfill sites.</li> </ul>
	<ul style="list-style-type: none"> <li>Large volumes of unchipped green waste is stockpiled at the George landfill site, dry green waste on these sites poses a fire risk</li> </ul>	<ul style="list-style-type: none"> <li>A chipper is needed for the landfill sites, this chipper can rotated between the sites on a weekly or monthly basis to prevent a build-up of dry garden waste. Once the regional site is operational a mobile chipper will form part of the services available to GLM. Any small mobile chippers owned by GLM can be then rotated between the transfer stations as mentioned above</li> </ul>
<b>4. Hazardous Waste Management</b> Although local municipalities are not responsible for the management of hazardous waste generated by business and industry they do need to manage hazardous waste generated by households.		
<ul style="list-style-type: none"> <li>The National Domestic Waste Collection Standards require municipalities to provide communal collection points for non-mainstream recyclables such as batteries and fluorescent tubes for collection by a private service provider</li> </ul>	<ul style="list-style-type: none"> <li>Lack of drop-off facilities for HHW, there are only drop-off facilities at the two transfer stations</li> <li>Lack of awareness of what HHW waste is.</li> <li>Lack of information available on hazardous waste generated by business and industry</li> </ul>	<ul style="list-style-type: none"> <li>GLM to provide drop-off facilities for HHW at transfer stations. These facilities can be igloos or small sealed bins.</li> <li>GLM to commence with e-waste awareness days. GLM to run waste awareness campaigns which cover other types of HHW such a fluorescent tubes and used oil.</li> </ul>
<b>5. Waste Management Facilities</b> Good management of waste facilities in essential in limiting the negative environmental and social impact of facilities. Municipalities need waste management facilities such as MRFs, composting facilities and C&DW crushing facilities to allow them to implement the waste management hierarchy		
<b>a. Uniondale Landfill Site</b> The Uniondale landfill site received a score of 50% in the last DEA&DP audit. Improvements are required to increase the compliance score		
	<ul style="list-style-type: none"> <li>The landfill sites waste body is beyond the licensed footprint</li> <li>There are pickers and salvagers on the site</li> <li>Pickers have set up informal housing on the</li> </ul>	<ul style="list-style-type: none"> <li>GLM need to ensure the waste body is within the license boundary, either through amending the license co-ordinates or uplifting waste and moving it inside the licensed boundary.</li> <li>GLM to commence with closure and rehabilitation of the site by September</li> </ul>

Legislated Requirements/ Best Practice	Gaps	Needs
	<ul style="list-style-type: none"> <li>site</li> <li>Waste is set a light by pickers on-site.</li> <li>Lack of access control</li> <li>No municipal employees were present on site during the site visit</li> <li>Windblown litter</li> <li>The edge of the site is not well defined.</li> <li>No external audits are undertaken of the site</li> </ul>	<ul style="list-style-type: none"> <li>2024</li> <li>GLM need to provide access control on-site, to prevent informal reclaimers from accessing the site</li> <li>GLM to provide and erect fences around the site and have controlled access to site. Fences will also contain any windblown litter.</li> <li>GLM need security on-site to ensure waste is not burnt</li> <li>GLM to ensure the site is manned during operational hours and that waste entering the site is recorded.</li> <li>External audits to be undertaken on an annual basis.</li> </ul>
<b>5.2 Gwaing (George) landfill site</b> The Gwaing landfill site received a score of 65% in the last DEA&DP audit. Improvements are required to increase the compliance score		
	<ul style="list-style-type: none"> <li>There are pickers and salvagers on the site.</li> <li>Pickers have set up informal housing on the site.</li> <li>The slopes of the landfill site are very steep, this will pose a challenge to rehabilitation.</li> <li>There is a lack of permanent plant or a chipper on site to adequately manage waste.</li> <li>A large volume of garden waste is stockpiled at the entrance of the site, underneath powerlines. This is a fire risk and a risk to the powerlines.</li> <li>The landfill site is operating outside the licensed footprint. A review of the co-ordinates in the license is required.</li> </ul>	<ul style="list-style-type: none"> <li>GLM to ensure that only accepted waste (C&amp;DW and green waste) is disposed of on the site</li> <li>GLM to improve security and access control on-site</li> <li>GLM to provide signage on-site in three languages, signs must provide information on safety.</li> <li>GLM need to remove informal settlement on the site.</li> <li>GLM to ensure an EMPr is on-site at all times. This to ensure that all mitigation measures are being put in place.</li> <li>GLM to develop and organic waste diversion plan.</li> <li>GLM to look at providing a chipper and equipment on-site, thus helping managing waste on-site.</li> <li>GLM must look to remove garden waste stockpiled underneath powerline on site, as it is a fire and safety risk.</li> <li>GLM need to update the licensed boundary of the site</li> <li>GLM to recode on all data and non-conformances.</li> <li>Closure and rehabilitation to commence by 10 November 2024.</li> </ul>
<b>5.3 George Transfer Station</b> The George Transfer Station received a score of 65% in the last DEA&DP audit. Improvements are required to increase the compliance score		
	<ul style="list-style-type: none"> <li>The transfer station does not currently have an area for sorting of waste</li> <li>When equipment such as the compactor or ro-ro trucks are out of operation waste can build up at the transfer station</li> </ul>	<ul style="list-style-type: none"> <li>GLM to provide a sorting area and MRF</li> <li>GLM to look at providing new machinery and equipment on-site</li> <li>GLM to conduct water and air quality sampling at the site</li> </ul>

Legislated Requirements/ Best Practice	Gaps	Needs
	<ul style="list-style-type: none"> <li>No surface monitoring sampling is undertaken</li> </ul>	
<b>5.4 George Closed Landfill Site</b>		
The old George landfill site has been closed.	<ul style="list-style-type: none"> <li>No external audit of the facility are undertaken</li> </ul>	<ul style="list-style-type: none"> <li>Audits to be undertaken as per the license conditions</li> </ul>
<b>6. Waste Management Fleet and Equipment</b> A well managed and properly equipped waste management fleet is key to provision of waste management services. In addition to a well maintained operational fleet a municipality should also have a backup fleet for use in the event of breakdowns.		
The National Domestic Waste Collection Standards (GN 21 of 2011) requires that all vehicles in the waste management fleet and roadworthy and that waste is transported in closed vehicles	<ul style="list-style-type: none"> <li>The GLM currently hires a TLB and two tipper trucks to clean up illegal dumping</li> <li>GLM at present have refuse collection fleet consists of 16 operational trucks and 9 trucks that are in for repairs or going to sold.</li> <li>There are insufficient vehicles available for GLM to provide an efficient waste collection service to businesses.</li> </ul>	<ul style="list-style-type: none"> <li>The GLM should procure a TLB and tipper trucks and undertake this service in-house.</li> <li>The GLM should replace older vehicles in the operational fleet. The vehicles can form part of the backup fleet or be sold off.</li> <li>The GLM is in need of a bigger fleet to ensure collections services are available to all businesses in the GLM. At present some businesses do not have access to the municipal collection service.</li> </ul>
<b>7. Waste Information Management</b> In order to effectively plan for waste management services a knowledge of waste generation quantities and types is required.		
<b>7.1 IWMP Development, Implementation and Monitoring</b>		
The Waste Act requires that the IWMP is submitted to DEA&DP for endorsement, it is incorporated into the IDP and that annual reports of the IWMP implementation are undertaken.	<ul style="list-style-type: none"> <li>No annual performance reviews were undertaken on the 2014 IWMP</li> </ul>	<ul style="list-style-type: none"> <li>Once the 2019 IWMP is finalised the GLM must ensure that annual reports are prepared and submitted in line with the Municipal Systems Act (Act 32 of 2000)</li> </ul>
<b>7.2 Waste Generation and Disposal Records</b>		
	<ul style="list-style-type: none"> <li>Waste collection rounds in the GLM cover a combination of domestic and businesses. The waste entering the PetroSA landfill site is all recorded as domestic waste. It is therefore not possible to determine how much domestic and how much commercial and industrial waste is generated from these records.</li> <li>Even with the hazardous and business waste survey undertaken as part of this</li> </ul>	<ul style="list-style-type: none"> <li>GLM to implement a bin tracking system for businesses to determine how much commercial and industrial waste is collected</li> <li>Data that is recorded needs to be categorised and split, this making managing data a lot easier.</li> <li>The GRWIS is already capturing HCRW data from private generators. It is not recommended that the GLM develop a separate waste information system as this would mean generators need to report on multiple systems. Once the GRWIS is fully functional this gap should be addressed.</li> </ul>

Legislated Requirements/ Best Practice	Gaps	Needs
	<p>IWMP there are still gaps in the data for commercial and industrial waste.</p> <ul style="list-style-type: none"> <li>At present there are no accurate records for hazardous waste generated in the GLM.</li> </ul>	
<b>7.3 Waste Reporting</b>		
Municipalities are required to report on the SAWIS, IPWIS in terms of the National Waste Information Regulations (GN 625 of 2012) and the GRWIS in terms of the GRDM by-laws	<ul style="list-style-type: none"> <li>The GLM did not report data for the Uniondale landfill site on the IPWIS, in 2018.</li> <li>The GLM is not reporting on the GRWIS at present</li> </ul>	<ul style="list-style-type: none"> <li>GLM needs to ensure data for all waste facilities in reported on the SAWIS and GRWIS</li> </ul>
<b>8. Waste Education and Awareness</b>		
<ul style="list-style-type: none"> <li>80% of schools to be implementing waste awareness campaigns (NWMS, 2011)</li> <li>The service provider/ municipality must provide guidelines to households on how to separate waste</li> <li>Municipalities must implement education and awareness training regarding the basic refuse removal in relevant areas (National Domestic Waste Collection Standards, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>According to available records the GLM only undertook 20 awareness events in 2018. This number may not be truly reflective of events undertaken</li> <li>The GLM does not undertake follow up surveys to determine the effectiveness of waste awareness campaigns</li> </ul>	<ul style="list-style-type: none"> <li>The GLM needs to increase the number of awareness campaigns undertaken. All schools should be visited at least annually</li> <li>The GLM should undertake a public perception survey to determine current levels of knowledge with regard to waste management and to determine if awareness campaigns have been effective.</li> <li>All awareness training material should be kept consistent, with all programmes and training activities being recorded when they were completed (date and time).</li> <li>GLM to incorporate the GRDM waste awareness mascot on materials going forward</li> <li>GLM to align waste awareness campaigns with national/ international environmental days</li> </ul>
<b>9. By-Laws and Enforcement of By-Laws</b>		
In order to effectively regulate waste management a municipality needs to have comprehensive waste management by-laws which are actively enforced.		
-	<ul style="list-style-type: none"> <li>The GLM 2014 Integrated Waste Management By-Laws are not aligned with the GRDM waste management by-laws</li> <li>There is no fine schedule in the by-laws</li> <li>There is no requirement for households to separate waste at source in the by-laws</li> <li>There are no dedicated waste rangers to enforce waste management by-laws</li> </ul>	<ul style="list-style-type: none"> <li>The GLM should develop a comprehensive set of by-laws. The by-laws should be aligned with GRDMs waste management by-laws and include a schedule of fines</li> <li>Waste rangers should be appointed to enforce the by-laws, particularly around litter and illegal dumping</li> <li>GLM needs to look at enforcing waste by-laws, by identifying peace officers.</li> </ul>



Legislated Requirements/ Best Practice	Gaps	Needs
	<ul style="list-style-type: none"> <li>Littering and illegal dumping occurs in open areas across the GLM</li> </ul>	
<b>10. Institutional Functioning and Financial Management</b> A waste management department needs to sufficient staff who are appropriately trained, experienced and capacitated to manage the department effectively.		
<ul style="list-style-type: none"> <li>The Waste Act requires that a waste management officer is designated for each municipality</li> <li>The Waste Act requires municipalities to keep separate financial statements including a balance sheet of services provided</li> <li>All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs (NWMS, 2011)</li> </ul>	<ul style="list-style-type: none"> <li>There are 234 unfilled position in the waste management organogram. The shortage of employees may prevent functions from being undertaken correctly</li> <li>GLM does not track the volume of waste collected from all businesses, this is potentially a loss of revenue.</li> <li>GLM has not yet undertaken a full cost accounting exercise to determine if waste tariffs are correct</li> </ul>	<ul style="list-style-type: none"> <li>The GLM should review the organogram and prioritise positions which need to be filed.</li> <li>GLM to undertake a review of waste management tariffs which is informed by a full cost accounting exercise</li> <li>GLM to implement either a manual or automated system for tracking waste collected from businesses. This information will need to be checked against the tariffs charged to business.</li> </ul>
<b>11. Future Planning</b> Future planning is essential in ensuring that a waste management service can meet the changing requirements of a municipality and comply with changing legislation and best practice guidelines.		
	<ul style="list-style-type: none"> <li>The GLM has not commenced with the development of any facilities for organic waste management. A composting facility in the GLM would require a environmental impact assessment and waste management license. This process can take up to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>GLM to complete the construction of the a regional composting facility</li> <li>GLM to undertake a waste infrastructure masterplan to identify short, medium and long term waste infrastructure needs</li> <li>GLM need to consider waste services for future development within in the GLM.</li> </ul>

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## 9 Goals, Objectives and Assessment of Alternatives

For the purposes of this report we have defined the terms “goals”, “objectives” and “targets” as follows:

**Goals:** These are high order expressions of the key general outcomes that an organisation wishes to achieve. With regards to waste management, these could include, for example, improved legal compliance, improved institutional functioning, reduced visual impact of waste management, or increase waste minimisation. Because these are high order aspirations, goals at a municipal level may often mirror those of provincial or national government.

**Objectives:** These are lower order statements than goals, and should talk to more specific outcomes. They should however support at least one of the presented goals, and contribute to the realisation thereof.

**Targets:** Targets are very specific outcomes which, if achieved, would signal achievement of the objective. They indicate a desired level of performance.

The table below presents hypothetical examples of that discussed above.

**Table 70: Examples of Goals, Objectives and Target terminology**

Goal	Objective	Target	Activities
Improve legal compliance	Improve the level of compliance in landfill audits	Minimum of 60% compliance	<ul style="list-style-type: none"><li>• All landfills to be audited internally annually</li><li>• All landfills to be audited externally as per license requirements</li></ul>
Increase waste minimisation	Increase recycling	5% annual increase in recycling in the LM	<ul style="list-style-type: none"><li>• Collate annual figures of waste recycled in the municipal area</li><li>• Implement a 2 bag recycling pilot project</li><li>• Implement a schools recycling programme</li></ul>

### 9.1 Goals and George Local Municipality

A total of seven goals were identified for the GLM. The development of these goals has been informed by the situation analysis and gap and needs assessment.

1. Effective waste information management and reporting
2. Improved waste education and awareness
3. Improved institutional functioning and capacity
4. Provision of efficient and financially viable waste management services
5. Increased waste minimisation and recycling
6. Improved compliance and enforcement
7. Improved future planning

## 9.2 Alignment with National and Provincial Waste Management Goals

The 2011 NWMS, 2018 draft NWMS and the WC PIWMP (2017), along with the status quo of waste management within the GLM were used to inform the GLM third generation IWMP. The objectives of these three strategies are listed below.

**Table 71: Aligned of GLM Goals with National and Provincial Goals**

GLM Goals	WC PIWMP Goals	2011 NWMS	2018 NWMS
Goal 1. Effective waste information management and reporting	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 5. Achieve integrated waste management planning	
Goal 2. Improved waste education and awareness	Goal 1: Strengthen education, capacity and advocacy towards integrated waste management	Goal 4. Ensure people are aware of the impact of waste on their health, well-being and the environment	Goal 3. South Africans are aware of waste and a culture of compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping
Goal 3. Improved institutional functioning and capacity	Goal 1: Strengthen education, capacity and advocacy towards integrated waste management	-	
Goal 4. Provision of efficient and financially viable waste management services	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 2. Ensure the effective and efficient delivery of waste services Goal 6. Ensure sound budgeting and financial management for waste services	Goal 2. All South Africans live in clean communities with waste services that are well managed and financially sustainable
Goal 5. Increased waste minimisation and recycling	Goal 3. Effective and efficient use of resources	Goal 1: Promote waste minimisation, re-use, recycling and recovery of waste	Goal 1. Prevent waste, and where waste cannot be prevented, divert 50% of waste from landfill within 5 years; 80% within 10 years; and at least 95% of waste within 15 years through reuse, recycling, and recovery and alternative waste treatment
Goal 6. Improved compliance and enforcement	Goal 4. Improved compliance with environmental regulatory framework	Goal 7. Provide measures to remediate contaminated land Goal 8. Establish effective compliance with and enforcement of the Waste Act	Goal 3. South Africans are aware of waste and a culture of compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping
Goal 7. Improved future planning	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 5. Achieve integrated waste management planning.	

### 9.3 Objectives for George Local Municipality

The following objectives and targets, in context of the aforementioned goals, have been identified for the GLM.

**Table 72: GLM waste management objectives and targets**

Objective	Actions and Targets	Comments on Alternatives
<b>Goal 1: Effective waste information management and reporting</b>		
1.1 Accurate waste information is reported on the IPWIS and GRWIS on a regular basis. The GLM is aware of the type and quantity of waste generated in the municipality.	1.1.1 The George landfill will continue to operate and data recorded from this facility will be reported on IPWIS. GLM needs to commence reporting for the Uniondale facility.	There are no feasible alternatives to this. It is requirement in the National Environmental Management Waste Act for GLM to report Uniondale's results on IPWIS.
	1.1.2 Gate controllers to be stationed at all municipal facilities to record incoming waste.	The alternative to this project would be to install weighbridges at all municipal facilities. This is not deemed viable for the landfill sites, closure of the landfill sites will commence in 2019. A weighbridge is installed at the George transfer station and weighbridges should be installed at future waste management facilities.
	1.1.3 All new gate controllers to undergo DEA&DP waste calculator training prior to commencing work, and all existing gate controllers to undergo refresher training	There is no feasible alternative to this project. Gate controllers require training to ensure that no prohibited waste types enter the facilities.
	1.1.4 All municipal waste facilities are registered and reporting on the GRWIS	There are no feasible alternative to this project. The GLM is required to report on the GRWMIS by the GRDM waste management by-laws.
	1.1.5 Domestic waste characterisations are undertaken once every 3 years. A representative sample is used from different suburbs across the municipality	There is no feasible alternative to this project. Waste characterisations are required to determine changes in the domestic waste stream composition due to seasonal changes or influences from recycling and organic waste diversion initiatives.
1.2 The 2019 IWMP is regularly reviewed and the implementation status of project is monitored.	1.2.1 Undertake annual performance reviews of this IWMP, and send reports to GRDM and DEADP	There is no feasible alternative. The GLM is required to undertake annual performance reviews of the IWMP in terms of the Waste Act.
1.3 Effective internal management of waste related data	1.3.1 Develop an inventory of all internal waste related data sets	There is no feasible alternative to this project. In order to manage information correctly the GLM needs to determine what information is generated related to waste management
	1.3.2 Develop systems for effectively capturing and storing waste data sets identified in the above inventory, such that	An alternative to this project could be to develop a manual filing system. This is not recommended as

Objective	Actions and Targets	Comments on Alternatives
	they are readily available	information needs to be readily available in a central location and there is a risk that hardcopy records can be lost.
<b>Goal 2: Improved education and awareness</b>		
2.1 Waste awareness campaigns are well planned and executed. Sufficient awareness materials are available for the waste awareness campaigns	2.1.1 Develop an annual waste awareness calendar with dates for events.	There is no feasible alternative to this project.
	2.1.2 Waste awareness campaigns are to be undertaken by trained and experienced personnel.	There is no feasible alternative to this project. In order for waste awareness campaigns to be undertaken successfully they need to be undertaken by personnel with experience in waste management.
	2.1.3 Detailed records are kept of all waste awareness campaigns undertaken.	There is no viable alternative to this project
	2.1.4 The GRDM waste mascot is to be incorporated into future waste awareness materials	The alternative to this project would be for the GLM to develop their own mascot. This is not recommended as awareness materials should be standardised across the district through use of common elements such as the mascot.
2.2 The public, business and industry are informed of what constitutes hazardous waste and how hazardous waste should be managed	2.2.1 GLM to undertake hazardous waste awareness programmes with business and industry at least once a year. These programme should focus on the hazardous cell at the regional landfill site and inform business and industry of registration requirements and companies which are authorised to use the site.	The alternative to this project would be for GLM to undertake their own hazardous waste awareness programme. As the GRDM is the custodian of the regional landfill site it is recommended that the GRDM lead awareness programme with support from the local municipalities.
	2.2.2 GLM to undertake hazardous waste awareness programmes with the public with a focus on HHW	There is no viable alternative to this project. Alternatives could however be considered in how the awareness campaigns are undertaken e.g. open days vs community meetings.
2.3 Waste awareness campaigns are mainstreamed at schools and all learners and educated on good waste management practices	2.3.1 Waste awareness campaigns to be undertaken at all schools in GLM	There is no viable alternative to this project. Alternatives could however be considered in how the awareness campaigns are undertaken e.g. school competitions vs puppets shows
<b>Goal 3: Improved institutional functioning and capacity</b>		
3.1 The Solid Waste and Environmental Health Services department has sufficient well capacitated employees to allow for the waste management function to be actioned effectively and for the IWMP to be implemented	3.1.1 The Solid Waste and Environmental Health Services organogram is to be reviewed to determine if sufficient positions are listed to allow implementation of this IWMP. All key positions to be filled	The alternative to this project would be to outsource functions covered by vacant positions. This is not deemed as a suitable alternative as the GLM should focus on building expertise internally and the cost to outsource will likely be higher than to appoint an employee

Objective	Actions and Targets	Comments on Alternatives
	3.1.2 KPIs to be added to the environmental educators to increase waste education and awareness programmes being undertaken	An alternative to this project could be to add waste awareness campaigns to existing employees duties, however there is a risk that the employees may not have time available to adequately perform the additional role.
	3.1.3 Implementation of the IWMP to be added as a KPI to the Waste Manager or supervisors performance evaluation criteria.	An alternative could be to not have any KPIs relating to IWMP implementation but this risks failure to implement the IWMP.
	3.1.4 Training schedule developed with training needs for employees at different levels identified.	There is no feasible alternative to this project.
<b>Goal 4: Provision of efficient and financially viable waste management services</b>		
4.1 The waste management fleet is sufficient to continue to provide a good waste collection service and there are backup vehicles available when required	4.1.1 The GLM to continue to implement the vehicle replacement plan..	There is no feasible alternative to this project. The GLM's current vehicle replacement plan is working well and the fleet is well managed.
4.2 A kerbside collection service is provided to all future residential developments	4.2.1 Waste specifications to be developed for all future municipal and private developments (e.g. road widths and provision for drop-off centres)	The alternative to this project would be to appoint a private service provider to service all new housing development. This is not deemed as a viable alternative as the GLM is responsible for provision of a refuse collection service to residents.
4.3 Cost reflective tariffs are charged to residents and business	4.3.1 The waste service tariff reviews are to be informed by a full cost accounting exercise.	There is no feasible alternative to this project. A full cost accounting exercise is needed to determine the actual cost of the waste management function.
	4.3.2 GLM to implement an automated bin tracking system to ensure businesses are billed for the actual volume of waste generated	An alternative would be to implement a manual tracking system, this is not recommended.
4.4 Budget is determined and allocated for the closure and rehabilitation of waste management facilities	4.4.1 GRAP assessments of the landfill sites are undertaken on an annual basis and an annual contribution is made into a vote for the closure and rehabilitation of the landfill sites	There is no feasible alternative to this project as annual GRAP assessment are a legal requirement.
<b>Goal 5: Increased waste minimisation and waste diversion from landfill</b>		
5.1 The diversion of recyclables from waste generated is increased.	5.1.1 Ensure a greater participation of households in the separation at source programme (two bag system)	An alternative could be to stop the two bag system and establish drop-off facilities for recyclables. This is not recommended as recycling needs to be made easy to increase the participation of residents.
	5.1.2 GLM to develop a pilot swap shops/ buy back centre	A project would be to roll out swap shops. At present the swap shops are funded through the GLM. The GLM will instead add recycling drop-off facilities to transfer stations and drop-off facilities.
	5.1.3 Add recycling drop-off facilities to the George transfer station and Uniondale transfer station	There is no viable alternative to this project.

Objective	Actions and Targets	Comments on Alternatives
	5.1.4 The in-house recycling programme should be extended to all municipal offices. Records of waste collected through this system to be reported separately by the service provider who collects the recyclables.	There is no viable alternative to this project.
	5.1.5 Complete construction of the George MRF and incorporate informal reclaimers into the operation	An alternative would be to not use informal reclaimers at the MRF. There are existing informal reclaimers operating on the George landfill site who have knowledge in waste recycling. To avoid a loss of income to these reclaimers GLM should try and accommodate them at the new MRF.
5.2 The diversion of organic waste from landfill is increased	5.2.1 Roll out of the home composting programme to additional households	Drop-off facilities for food waste could be added to transfer stations and drop-off centres, however as food waste decomposes quickly these bins would need to be emptied regularly and at present there are no municipal composting facilities for food waste. This is therefore not deemed as a viable alternative.
	5.2.2 Finish construction of the George composting facility	There is no viable alternative to this project. GLM are in the process of completing the composting facility by the end of the 2019/2020 financial year end.
	5.2.3 Assess the feasibility of developing a composting facility in Uniondale versus the cost to transport green waste to George	Drop-off facilities for food waste could be added to Uniondale's transfer stations, however as food waste decomposes quickly these bins would need to be emptied regularly and at present there are no municipal composting facilities for food waste. This is therefore not deemed as a viable alternative.
	5.2.4 GLM to provide green drop-off facilities with chippers at the George transfer station. .	There is no viable alternative to this project.
<b>Goal 6: Improved compliance and enforcement</b>		
6.1 Littering and illegal dumping is reduced and the by-laws related to waste management issues are enforced	6.1.1 Review the Integrated Waste Management By-laws (2014) and make provision for a fining schedule	There is no viable alternative to this project.
	6.1.2 Appoint a waste ranger to enforce the by-laws.	An alternative to this project would be to add the waste ranger function to existing employees functions. There is a risk that existing employees may not have capacity to undertake this role in addition to their existing roles
	6.1.3 Undertake clean-up campaigns in areas where litter and illegal dumping is prevalent. These can be undertaken in association with local schools, environmental organisations or communities and used as waste	An alternative to this project would be for the GLM to undertake all clean-up campaigns in-house without engaging the communities. Clean-up campaigns can be used to raise waste awareness so this is not



Objective	Actions and Targets	Comments on Alternatives
	awareness campaign	deemed as a suitable alternative.
6.2 All waste facilities are operated in accordance with their licenses and licensed are obtained for unlicensed facilities	6.2.1 Ensure that the George and Uniondale landfill sites continue to be managed according to their license conditions	There is no viable alternative to this project.
	6.2.2 Comply with closure licenses for George and Uniondale landfill sites	There is no viable alternative to this project.
	6.2.3 All waste facilities to be audited internally and externally at the frequency specified in their waste management license or registration	There is no viable alternative to this project. Internal and external audits are required by the waste management licenses.
<b>Goal 7: Improved future waste infrastructure planning</b>		
7.1 Plans are in place to guide the development of waste management infrastructure which is required to meet national and provincial waste diversion targets	7.1.1 The George municipality to develop and implement a waste infrastructure masterplan to guide the development of waste facilities over the next 10 – 15 years.	There is no viable alternative to this project. The GLM needs to implement the waste infrastructure masterplan to ensure the waste infrastructure needs of the municipality are met.

## 10 Implementation Plan

The following section contains an implementation plan. The implementation plan outlines the following per project:

- Project priority
- Timeframes
- Anticipated budget
- Potential funding sources
- Responsibility for implementation of the project

Projects will be assigned a priority from low to high. While all projects in the implementation plan should be implemented, in the event that budget for waste project is cut the high priority projects should be implemented before low priority projects.

**Table 73: GLM implementation plan**

	Actions and Targets	Priority	Timeframe	Budget	Funding source	Responsibility
<b>Goal 1: Effective waste information management and reporting</b>						
<b>1.1 Accurate waste information is reported on the IPWIS and GRWMIS on a regular basis. The GLM is aware of the type and quantity of waste generated in the municipality.</b>						
1.1.1	The George landfill will continue to operate and data recorded from this facility will be reported on IPWIS. GLM needs to commence reporting for the Uniondale facility.	High	Until Closure	Nil. To be undertaken internally	N/A	GLM
1.1.2	Gate controllers to be stationed at all municipal facilities to record incoming waste.	High	Until Closure	Nil. Existing employees to be used.	N/A	GLM
1.1.3	All new gate controllers to undergo DEA&DP waste calculator training prior to commencing work, and all existing gate controllers to undergo refresher training	Medium	Until Closure	R2,000 per person if travel is required, no cost if DEA&DP undertake training in GLM	N/A	GLM
1.1.4	All municipal waste facilities are registered and reporting on the GRWMIS	High	Until Closure	Nil. To be undertaken internally	N/A	GLM
1.1.5	Domestic waste characterisations are undertaken once every 3 years. A representative sample is used from different suburbs across the municipality	High	Until Closure	Nil. To be undertaken internally	N/A	GLM
1.1.6	Identify the major private waste management companies operating in the GLM area and request monthly records of waste managed in the GLM area. This information can be requested inline with the GRDM	Medium	2020 - ongoing	Nil.	N/A	GLM

	Actions and Targets	Priority	Timeframe	Budget	Funding source	Responsibility
	waste management by-laws.					
<b>1.2 The 2020 IWMP is regularly reviewed and the implementation status of project is monitored.</b>						
1.2.1	Undertake annual performance reviews of this IWMP, and send reports to GRDM and DEADP	High	Until Closure	Nil. To be undertaken internally	N/A	GLM
<b>1.3 Effective internal management of waste related data</b>						
1.3.1	Develop an inventory of all internal waste related data sets	Medium	2020 - 2025	Nil. To be undertaken internally	N/A	GLM
1.3.2	Develop systems for effectively capturing and storing waste data sets identified in the above inventory, such that they are readily available	Medium	2020 - 2025	Nil. To be undertaken internally	N/A	GLM
<b>Goal 2: Improved education and awareness</b>						
<b>2.1 Waste awareness campaigns are well planned and executed. Sufficient awareness materials are available for the waste awareness campaigns</b>						
2.1.1	Develop an annual waste awareness calendar with dates for events.	High	2020 - 2025	Nil. To be undertaken internally	N/A	GLM
2.1.2	Waste awareness campaigns are to be undertaken by trained and experienced personnel. Environmental educators to receive waste management training	High	2021	R10,000/person	N/A	GLM
2.1.3	The GRDM waste mascot is to be incorporated into future waste awareness materials	High	2020 - 2025	Nil. To be undertaken internally	N/A	GLM & GRDM
<b>2.2 The public, business and industry are informed of what constitutes hazardous waste and how hazardous waste should be managed</b>						
2.2.1	GLM to undertake hazardous waste awareness programmes with business and industry at least once a year.	Medium	2020 - 2025	Nil. To be undertaken internally	N/A	GLM
2.2.2	GLM to undertake hazardous waste awareness programmes with the public with a focus on HHW	Medium	2020 - 2025	Nil. To be undertaken by environmental educators	N/A	GLM
<b>2.3 Waste awareness campaigns are mainstreamed at schools and all learners and educated on good waste management practices</b>						
2.3.1	Waste awareness campaigns to be undertaken at all schools in GLM	High	2020 - 2025	Nil. To be undertaken by environmental educators	N/A	GLM
<b>Goal 3: Improved institutional functioning and capacity</b>						
<b>3.1 The Solid Waste and Environmental Health Services department has sufficient well capacitated employees to allow for the waste management function to be actioned effectively and for the IWMP to be implemented</b>						
3.1.1	The Solid Waste and Environmental Health Services organogram is to be reviewed to determine if sufficient positions are listed to allow implementation of this IWMP. All key positions to be filled	High	2021/22	Nil. The review of the organogram can be undertaken internally. Budget will be required to fill vacancies	N/A	GLM

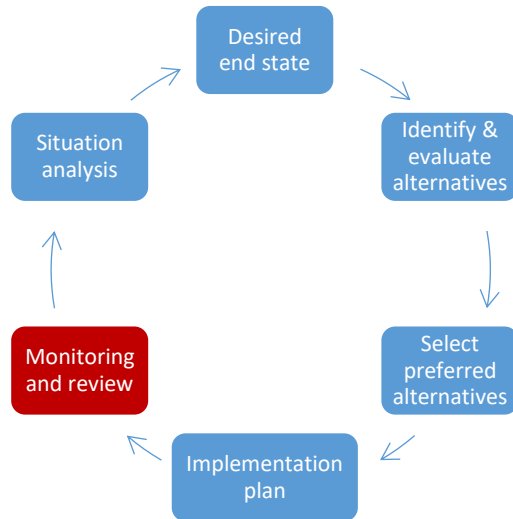
	Actions and Targets	Priority	Timeframe	Budget	Funding source	Responsibility
3.1.2	KPIs to be added to the waste educators to increase waste education and awareness programmes being undertaken	High	2020/24	Nil.	N/A	GLM
3.1.3	Implementation of the IWMP to be added as a KPI to the Waste Manager or supervisors performance evaluation criteria.	High	2020/21	Nil.	N/A	GLM
3.1.4	Training schedule developed with training needs for employees at different levels identified.	Medium	2020/21	Nil. The review of training can be undertaken internally. Budget will be required to undertake training	N/A	GLM
<b>Goal 4: Provision of efficient and financially viable waste management services</b>						
<b>4.1 The waste management fleet is sufficient to continue to provide a good waste collection service and there are backup vehicles available when required</b>						
4.1.1	The GLM to continue to implement the vehicle replacement plan, of acquiring two new vehicles a year.	Medium	Annually	R2.5 million per refuse compactor	GLM	GLM
<b>4.2 A kerbside collection service is provided to all future residential developments</b>						
4.2.1	Waste specifications to be developed for all future municipal and private developments (e.g. road widths and provision for drop-off centres)	Medium	2020 - 2025	Nil. To be undertaken internally.	N/A	GLM
<b>4.3 Cost reflective tariffs are charged to residents and business</b>						
4.3.1	The waste service tariff reviews are to be informed by a full cost accounting exercise.	High	2020/21 (reviewed annually)	R100,000 – outsourced. Nil, internally	N/A	GLM
4.3.2	GLM to implement an automated bin tracking system to ensure businesses are billed for the actual volume of waste generated	High	2020/21	TBC	N/A	GLM
<b>4.4 Budget is determined and allocated for the closure and rehabilitation of waste management facilities</b>						
4.4.1	GRAP assessments of the landfill sites are undertaken on an annual basis and an annual contribution is made into a vote for the closure and rehabilitation of the landfill sites	High	Until Closure	R 60,000.00 per landfill	N/A	GLM
<b>Goal 5: Increased waste minimisation and waste diversion from landfill</b>						
<b>5.1 The diversion of recyclables from waste generated is increased</b>						
5.1.1	Ensure a greater participation of households in the separation at source programme	Medium	2020 - 2025	Nil. The responsibility of the service provider	N/A	GLM
5.1.2	GLM to develop a pilot swap shops/ buy back centre	Medium	2020 - 2025	R80,000 per swap shop to purchase a container and procure	N/A	GLM

	Actions and Targets	Priority	Timeframe	Budget	Funding source	Responsibility
				initial stock		
5.1.3	Add recycling drop-off facilities to the George transfer station and Uniondale transfer station	Medium	2020 - 2025	R50,000 per facility to procure bins	N/A	GLM
5.1.4	The in-house recycling programme should be extended to all municipal offices. Records of waste collected through this system to be reported separately by the service provider who collects the recyclables.	Medium	2020 - 2025	Nil	N/A	GLM
5.1.5	Complete construction of the MRF	High	2020/21	Nil. Budget has already been allocated for the MRF prior to the development of this plan	N/A	GLM
5.1.6	Incorporate existing informal reclaimers on the George landfill site into the new MRF.	High	2020/21	Nil.	N/A	GLM
<b>5.2 The diversion of organic waste from landfill is increased</b>						
5.2.1	Roll out of the home composting programme to additional households	Medium	2020 - 2025	R 100,000	N/A	GLM
5.2.2	Finish construction of the George composting facility	Medium	2020 - 2025	R 35 million	N/A	GLM
5.2.3	Assess the feasibility of developing a composting facility in Uniondale versus the cost to transport green waste to George.	Medium	2022 - 2023	Nil if undertaken internally. R80,000 if outsourced.	N/A	GLM
5.2.4	GLM to provide green drop-off facilities with chippers at the George transfer station. .	Medium	~2022 - 2023	R150,000	N/A	GLM
5.2.5	Develop organic waste diversion strategies for both landfill sites	Medium	2021	Nil if undertaken internally	N/A	GLM
<b>Goal 6: Improved compliance and enforcement</b>						
<b>6.1 Littering and illegal dumping is reduced and the by-laws related to waste management issues are enforced</b>						
6.1.1	Review the Integrated Waste Management By-laws (2014) and make provision for a fining schedule	High	2020 - 2025	Nil if undertaken internally.	N/A	GLM
6.1.2	Appoint a waste ranger to enforce the by-laws.	High	2020 - 2025	~R350,000, salary to be confirmed based on Georges remuneration policy	N/A	GLM
6.1.3	Undertake clean-up campaigns in areas where litter and illegal dumping is prevalent. These can be undertaken in association with local schools, environmental organisations or communities and used as waste awareness campaign	High	2020 - 2025	Nil to be undertaken internally	N/A	GLM

	Actions and Targets	Priority	Timeframe	Budget	Funding source	Responsibility
<b>6.2 All waste facilities are operated in accordance with their licenses and licensed are obtained for unlicensed facilities</b>						
6.2.1	Ensure that the George and Uniondale landfill sites continue to be managed according to their license conditions	High	Until Closure	TBC	N/A	GLM
6.2.4	All waste facilities to be audited internally and externally at the frequency specified in their waste management license or registration	High	2020/2021	R 30 000.00 per external audit, excluding tachometric survey and airspace determination	N/A	GLM
<b>Objective 6.2 Landfill sites are closed and rehabilitated according to license conditions</b>						
6.2.1	George (operational) landfill site to be closed and rehabilitated according to license conditions	High	–2024 - 2029	R23,000,000	GLM	GLM
6.2.2	Monitoring boreholes and fencing to be added to the George (closed) landfill.	Medium	2023 - 2024	R600,000 (estimate)	GLM	GLM
6.2.3	Uniondale landfill site to be closed and rehabilitated according to license conditions	High	2024 -2029	R8,700,000	GLM	GLM
<b>Goal 7: Improved future waste infrastructure planning</b>						
<b>7.1 Plans are in place to guide the development of waste management infrastructure which is required to meet national and provincial waste diversion targets</b>						
7.1.1	The George municipality to develop and implement a waste infrastructure masterplan to guide the development of waste facilities over the next 10 – 20 years.	Medium	2020 - 2021	R200,000	N/A	GLM
7.1.2	Implement the waste infrastructure masterplan	Medium	2021 - 2041	TBC based on the infrastructure needs identified in the plan		

## 11 Monitoring

The IWMP planning cycle developed by DEFF includes monitoring and review as one of the six planning stages.



**Figure 39: IWMP planning phases as per the Guideline for the Development of Integrated Waste Management Plans (DEA)**

Section 13 (3) of the Waste Act notes the requirement in Section 46 of the Municipal Systems Act (32 of 2000) for municipalities to compile annual performance reports. Section 13 also specifically requires that progress reports must consider implementation of the IWMP including:

the extent to which the plan has been implemented during the period;

- a) the waste management initiatives that have been undertaken during the reporting period;
- b) the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;
- c) the level of compliance with the plan and any applicable waste management standards;
- d) the measures taken to secure compliance with waste management standards;
- e) the waste management monitoring activities;
- f) the actual budget expended on implementing the plan;
- g) the measures that have been taken to make any necessary amendments to the plan;

Annual reviews of the IWMP are to be incorporated in the municipality's Integrated Annual Report and sent to Local Government which DEA&DP will source. This is as per chapter 3(13)(3) of NEMWA.

A full review of the IWMP should be undertaken in 2020, however intermediate reviews may also be required if the status quo of waste management changes significantly before 2020



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## 12 References

Census (2011) Municipal report Western Cape

Eden District Municipality (2018). Waste Characterisation Study George Municipality, Final Report, 2018

George Local Municipality (2019) Amended Integrated Development Plan 2019/2020

George Local Municipality (2017) 2017 to 2022 Draft Second Review of the Fourth-Generation Integrated Development Plan (IDP)

George Local Municipality (2017b) Solid Waste Diversion Plan (draft)

George Local Municipality (2014) Integrated Waste Management Plan (2<sup>nd</sup> Generation) (Final Draft Report)

Western Cape Provincial Treasury (2018a). Municipal Economic Review and Outlook 2018

Western Cape Provincial Treasury (2018b). Provincial Economic Review and Outlook 2018

Western Cape Biodiversity Spatial Plan Handbook. Stellenbosch: CapeNature (2017).

Statistics South Africa (2016) Community Survey 2016 Technical Report

### **Web references**

Web reference 1. George Municipality [https:// http://www.george.gov.za/](https://http://www.george.gov.za/) accessed on 22 May 2019

Web reference 2. South African Waste Information Centre Statistics <http://sawic.environment.gov.za/index.php?menu=15> accessed on 20 May 2019

Web reference 3. Census 2011 [http:// census2011.adrianfrith.com/place/177](http://census2011.adrianfrith.com/place/177) accessed on 20 May 2019

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## Appendix A: Waste Legislation

### ***Introduction***

South Africa has a host of legislated acts, policies and guidelines relating to waste management, the most significant of these being the newly promulgated National Environmental Management: Waste Act (58 of 2008) which is now the country's central piece of legislation dealing with waste management. There are also certain relevant international conventions to which South Africa subscribes. This section discusses these acts, policies, guidelines and conventions thereby providing a context to waste policy and legislation. Where applicable it highlights aspects of these acts and policies which apply specifically to the local government authorities.

This section is not exhaustive but presents the broader legislative framework and highlights the more important aspects thereof.

### **International conventions**

#### **Basel Convention on the control of trans-boundary movement of hazardous wastes and their disposal**

The Basel Convention (1989) is a global agreement which seeks to address the trans-boundary movement of hazardous waste. The convention is centred on the reduction of the production of hazardous waste and the restriction of trans-boundary movement and disposal of such waste. It also aims to ensure that strict controls are in place when any trans-boundary movement and disposal of hazardous waste does occur, and ensures that it is undertaken in an environmentally sound and responsible manner.

The Basel Convention, held on 22 March 1989, came into effect during May 1992 after ratification by the prerequisite number of countries. South Africa ratified the Convention in 1994, with DEA being the focal point for the convention.

Whilst South Africa subsequently acceded to this Convention, no legislation was passed at the time to give effect to it. The second Basel convention, held on 8 October 2005, set standards for the control of trans-boundary movements of hazardous wastes and their disposal, setting out the categorization of hazardous wastes and the policies for their disposal between member countries. South Africa accedes to this convention and implements its provisions.

The key objectives of the Basel Convention are:

- To minimise the generation of hazardous wastes in terms of quantity and hazardousness.
- To dispose of hazardous waste as close to the source of generation as possible.
- To reduce the movement of hazardous wastes.
- Locally, draft regulations are being prepared in an effort to control the movement of such waste.

The most significant provisions of the Convention relate to the ban on certain importations and exportations; illegal traffic, bilateral, multilateral and regional agreements and the control system of the Convention.

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The Basel Convention contains specific provisions for the monitoring of implementation and compliance. A number of articles in the Convention oblige parties (national governments which have acceded to the Convention) to take appropriate measures to implement and enforce its provisions, including measures to prevent and punish conduct in contravention of the Convention.

### **Rotterdam Convention**

The Rotterdam Convention was held in September 1998 to promote shared responsibilities in relation to importation of hazardous chemicals. One of the key provisions is the Prior Informed Consent procedure, which lists information on hazardous chemicals in Annex III. It became legally binding for its parties in 2004. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Parties can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply. From this convention a PIC circular is distributed every six months giving updated information on the listed chemicals, member compliance and sources of supporting information.

### **Stockholm Convention**

In 1995 the United Nations Environment Programme called for global action to be taken on persistent organic pollutants (POPs), which pose a threat to both health and the environment. As a result, the negotiations for the Stockholm Convention on POPs were initiated and culminated in May 2001, with the convention enforced in May 2004. South Africa accedes to this convention, whereby member countries have agreed to phase out POPs, and prevent their import or export. It imposes restrictions on the handling of all intentionally produced POPs, i.e. identified highly toxic, persistent chemicals.

The 12 POPs that have been identified under the convention are aldrin, chlordane, dieldrin, dichloride-diphenyl-trichloroethane (DDT), endrin, Hexachlorobenzene (HCB), heptachlor, mirex, polychlorinated biphenyls (PCBs), toxaphene, dioxins, and furans. Of the aforementioned substances, two are still used in South Africa today (DDT and PCBs), although their use is restricted under the 'Fertiliser Act' as administered by the Department of Agriculture. The above list of chemicals is relevant, especially where there is any management of obsolete and banned pesticides.

South Africa negotiated the continued use of DDT, as it has proved critical in the fight against malaria, and PCBs will be phased out as the electrical appliances that contain them become obsolete.

In 2005 South Africa, at the Reduce, Reuse and Recycle Ministerial Conference, became one of 7 countries to sign an agreement for the African Stockpile Programme, a project aimed at recovering and the appropriate disposal of obsolete pesticides. With funding (\$1,7million) from the World Bank, government began implementing the programme.

The country is also developing guidelines for the implementation of the Globally Harmonised System of Classification and Labelling of Chemicals. The funding was for the disposal of obsolete pesticides as part of the African Stockpile Programme. The department has begun implementing this programme throughout the country. Further work on training workers to handle chemicals was rolled out.

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By mid-2007, a pilot project for the collection of all obsolete pesticides possessed by farmers in the Limpopo Province had begun, and this involved, amongst others, identification of collection points and collection of obsolete pesticides within the province. These stocks were further consolidated from various collection points to a central collection point and ultimately safeguarded and shipped to Holfontein Waste Disposal Site for temporary storage. The inventory of pilot project stocks has been undertaken. About 100 tons of labelled and unlabeled stocks of obsolete pesticides have been collected through this pilot project. The pilot project is expected to serve as a benchmark for the roll-out of projects in other provinces.

However, as the amount of obsolete pesticide stocks collected from the Limpopo pilot project is significantly higher than what was anticipated, it has become apparent that the remaining funds in the World Bank African Stockpile Programme budget will not be sufficient for national rollout of the programme. The African Stockpile Programme Project Management Unit has had numerous deliberations in an effort to come up with a sustainable solution for management of pesticides in the country<sup>1</sup>.

### **London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matters**

The London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, 1972, aims to prevent marine pollution by preventing the dumping of wastes such as industrial waste, sewage sludge, dredged material and radioactive waste at sea, as well as incineration at sea. South Africa is a signatory to the convention and the associated 1996 Protocol.

This convention and its various protocols were incorporated into the following South African legislation:

- Prevention of Pollution from Ships Act (Act 2 of 1986), and the regulations concerning the Prevention of Pollution by Garbage from Ships Regulations (GN R1490, published in Government Gazette No. 14000, dated 29 May 1992).
- The Dumping at Sea Control Act (Act 73 of 1980).

The primary responsible agency is the DEAT Sub Directorate of Marine and Coastal Pollution Management who issue permits for dredge spoils and sinking of old vessels. It occasionally issues permits for ships in trouble, typically grounded, to release their cargo into the sea.

### **Local Agenda 21**

Agenda 21 is a comprehensive document for global action on the environment and sustainable development, to take the world into a more sustainable 21st century. It is probably the most important document to be adopted by the UN Conference on the Environment and Development (UNCED) at the Rio de Janeiro Summit in June 1992. The 40 chapters covered a wide range of issues including the atmosphere, oceans, land resources, poverty, etc.

It was important for each nation to develop its own local Agenda 21, in order to translate and interpret the principles of sustainable development to local areas. Local Agenda 21 focuses on developing partnerships involving the public, private and community sectors that together

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can resolve urban environmental management problems and strategically plan for long term sustainable environmental management.

One of the key features of sustainable development is the requirement to integrate economic and environmental factors into all decision making processes. Applications of these criteria to waste management require a new emphasis on resource and energy conservation, ensuring that supplies of raw materials, sources of energy and the quality of the physical environment can be maintained. Agenda 21 initiatives are considered to be an essential vehicle for the implementation of various aspects of the IWMP.

The key goals of Agenda 21 are:

- Sustainable development.
- Eradication of poverty.
- Elimination of threats to the environment.
- To ensure a sustainable environment.
- Creation of sustainable job opportunities.

The focus of the IWMP is to strive to attain the above goals in all facets thereof. The following seven key activities require attention in order to satisfy Local Agenda 21.

13

(a) Activities within the Local Authority

- Garnering local political support
  - Information sessions and workshops.
  - Reports and presentation to committees.
  - Physical involvements in projects.
- Managing and improving local authorities own environmental performance.
  - Corporate commitment.
  - Staff training and creating awareness.
  - Environmental management systems.
  - Budgeting for environmental processes.
  - Policy integration across all sectors.
- Integrating sustainable development aims within local authorities' policies and activities
  - Economic development.
  - Tendering and purchasing.
  - Tourism and visitor strategies.
  - Health strategies.
  - Welfare, equal opportunities and poverty strategy.
  - Focused environmental services.

(b) Activities within the wider community

- (i) Awareness raising and education
  - Support for environmental education.
  - Awareness-raising events.
  - Visits and talks.
  - Support for voluntary groups.
  - Publication of local information.

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- Press releases.
  - Initiatives to encourage behavioural change and practical actions.
  - Consulting and involving general public
    - Public consultation processes.
    - Interaction with NGO's/forums.
    - Focus groups.
    - Feedback mechanisms
  - Forging partnerships with other interest groups and activities, such as:
    - Meetings, workshops and conferences.
    - Working groups/advisory groups.
    - Round table discussions.
    - Comprehensive Urban Plan.
    - International and regional partnerships.
  - Measuring, monitoring and reporting on progress toward sustainability
    - Environmental monitoring.
    - Sustainability indicators.
    - Targets.
    - Environmental Impact Assessments.
    - Strategic Environmental Assessment.

## **South African Legislation**

### **Constitution of the Republic of South Africa**

The South African Constitution (Act 108 of 1996) is the supreme law of South Africa. Any law or conduct that is inconsistent with it, is invalid, and the obligations imposed by it must be fulfilled. Therefore, as such, all law, including environmental and waste management planning must consider compliance with the Constitution of South Africa.

The Constitution contains a Bill of Rights, set out in Sections 7 to 39. The Bill of Rights applies to all law and binds the legislature, the executive, the judiciary and all organs of state. A provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that it is applicable, taking into account the nature of the right and the nature of the duty imposed by the right.

Section 24 of the Constitution guarantees everyone the right to:

An environment that is not harmful to their health or wellbeing; and to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:

- Prevent pollution and ecological degradation.
- Promote conservation. and
- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic or social development.

The environmental rights (section 24), is strengthened by other relevant fundamental rights, such as the rights of access to information and administrative justice.

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(c) National and Provincial authority competence

General obligations imposed by the constitution on national and provincial government institutions are adjudicated, as the Constitution establishes an administrative framework for all organs of state. The national and provincial governments are concurrently entitled to legislate on matters stipulated in Schedule 4 of the Constitution. Both spheres of government have legislative competence over areas that will impact on management in the natural/urban interface, like environment, disaster management, nature conservation and pollution control, and would therefore also frame related matters such as waste management. It should also be noted that the Constitution contemplates the assignment, from national Government to the provinces, of functions that would normally be the exclusive preserve of the former.

Subsection 24(b) of the Constitution relates to the constitutional imperative requiring government to enact appropriate environmental law reform legislation. This led to the promulgation of the National Environmental Management Act (Act 107 of 1998, NEMA)<sup>2</sup> and the National Water Act (Act 36 of 1998)<sup>3</sup> amongst others. More specifically to the objective of this framework is the National Environmental Management: Waste Act, which was recently enacted<sup>4</sup>.

Important to the development of a local integrated waste management strategy and plan is that in accordance with Section 155(6) of the Constitution each provincial government must establish municipalities in its province and, by legislative or other measures, must –

- (1) provide for the monitoring and support of local government in the province; and
- (2) promote the development of local government capacity to enable municipalities to perform their functions and manage their own affairs.

Furthermore in according to Section 155(7) the national government and the provincial governments have the legislative and executive authority to see to the effective performance by municipalities of their functions in respect of matters listed in Schedules 4 and 5, by regulating the exercise by municipalities of their executive authority referred to in section 156 (1).

(d) Local authority competence

National and provincial government are both obliged, by legislative and other measures, to support and strengthen the capacity of municipalities to manage their affairs, to exercise their powers and perform their functions within the individual municipal jurisdiction. This responsibility is covered in Chapter 7:

In terms of section 152 of the Constitution the objects of local government are to:

- Provide democratic and accountable government for the local community.
- Ensure the provision of services to communities in a sustainable manner.
- Promote social and economic development.



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- Promote a safe and healthy environment. and
  - Encourage the involvement of communities and community organisations in the matters of local government.

A municipality must in terms of section 153 structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community and participate in national provincial development programmes.

National and provincial government are also obliged to assign to a municipality, by agreement and subject to any conditions, the administration of matters listed in the relevant parts of Schedules 4 and 5 and any other matter which would be most effectively administered locally, provided that the municipality has the capacity to administer it. A municipality has the right to exercise any power concerning a matter reasonably necessary for, or incidental to, the effective performance of its functions.

Those areas of the urban/natural interface zone that fall within the legislative and jurisdictional competence of provincial or local authorities (for example a road reserve or urban areas that border a park) fall to be regulated by those authorities. The Constitution aims to co-ordinate the different levels of government and the management of the issues which the public institutions constituted or confirmed by them are charged with governing. This requires co-operation on the part of different organs of state. The above statements become pertinent to waste management as it sets the context of the administrative activities convened at the Local government level. In addition, related to local government in terms of section 152(1)(d) of the constitution, one of the objectives of local government is “to promote a safe and healthy environment”.

Municipalities are further charged with making, administering and enforcing by-laws for the effective administration of the matters of which they have the right to administer. Any bylaw that conflicts with national or provincial legislation is deemed invalid. In accordance with Section 160(4) no bylaw may be passed by a Municipal Council unless all the members of the Council have been given reasonable notice; and the proposed by-law has been published for public comment. Furthermore, in accordance with Section 162 no bylaw may be enforced unless it has been published in the relevant official provincial gazette and the bylaw must be accessible to the public.

### **National Environmental Management Act**

The National Environmental Management Act (Act 107 of 1998) commonly known as “NEMA” gives effect to the “Environmental Right” of the Constitution and is South Africa’s overarching framework for environmental legislation. The objective of NEMA is to provide for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management.

NEMA sets out a number of principles that aim to implement the environmental policy of South Africa. These principles are designed to serve as a framework for environmental planning, as guidelines by which organs of state must exercise their functions and to guide other laws concerned with the protection or management of the environment.

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The principles include a number of internationally recognized environmental law norms and some principles specific to South Africa. These core principles include:

- Accountability.
- Affordability.
- Cradle to Grave Management.
- Equity.
- Integration.
- Open Information.
- Polluter Pays.
- Subsidiary.
- Waste Avoidance and Minimisation.
- Co-operative Governance.
- Sustainable Development.
- Environmental Protection and Justice.

**Chapter 2:** Sections 3 to 6 of NEMA, make provision for the establishment of the Committee for Environmental Co-ordination. The objective of the committee is to promote the integration and co-ordination of environmental functions by the relevant organs of state and in particular to promote the achievement of the purpose and objectives of environmental implementation plans and environmental management plans.

**Chapter 5:** Sections 23 to 24 of NEMA is designed to promote integrated environmental management and provide tools for integrating environmental activities. Environmental management must place people and their needs at the forefront of its concerns, and serve their physical, psychological, developmental, cultural and social interests equitably. . This chapter of NEMA requires any activity that can potentially impact on the environment, socio-economic conditions and cultural heritage require authorisation or permission by law and which may significantly affect the environment, must be considered, investigated and assessed prior to their implementation and reported to the organ of state charged by the law with authorising, permitting or otherwise allowing the implementation of an activity. Development must be socially, environmentally and economically sustainable. Sustainable development therefore requires the consideration of all relevant factors, some of which include the following:

- The disturbance of ecosystems and loss of biological diversity is to be avoided, or, minimised and remedied.
- The pollution and degradation of the environment are to be avoided, or, minimised and remedied.
- Waste is to be avoided, or, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.
- A risk-averse and cautious approach is to be applied.
- Negative impacts on the environment and on the people's environmental rights must be anticipated and prevented, and where they cannot be altogether prevented, must be minimised and remedied.

Section 24(5) of NEMA was enacted through the promulgation of the Environmental Impact Assessment (EIA) Regulations published in 2006 and revised in 2010. The construction of facilities or infrastructure including associated structures or infrastructure for the recycling, re-use, handling, temporary storage or treatment of general waste and hazardous waste, were originally listed in these regulations and therefore required either a Basic Assessment or a Scoping and EIA Process to be followed depending on specific listed criteria. However,

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the above mentioned waste activities have now been repealed and instead require a license application under the Waste Act.

**Chapter 7:** Sections 28 to 30, imposes a duty of care in respect of pollution and environmental degradation. Any person who has caused significant pollution or degradation of the environment must take steps to stop or minimise the pollution. Where an incident occurs that is potentially detrimental to the environment, the person who is responsible for the incident or the employer must, within 14 days of the incident, report to the Director-General, provincial head of department and municipality. The relevant authority may specify measures to address the problem and remediate the area within 7 days. The Acts also attach consequences for breaching the duty of care, namely that government authorities are empowered to issue directions and to remediate the situation and recover costs where the directions are not complied with.

**Chapter 8:** Sections 35, provides that the Minister and every MEC and municipality may enter into an environmental management co-operation agreement with any person or community for the purpose of promoting compliance with the principals laid down in NEMA. Environmental Co-operation Agreements may contain an undertaking by the person or community concerned to improve the standards laid down by law for the protection of the environment and a set of measurable targets and a timeframe for fulfilling the undertaking.

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

### **Environment Conservation Act**

The Environment Conservation Act (Act 73 of 1989) (ECA) predates the Constitution and, although many sections have already been repealed, certain sections are still in place.

The objectives of the ECA are to provide for the effective protection and controlled utilisation of the environment. Several sections of the ECA were repealed through the enactment of NEMA and certain responsibilities were assigned to the provinces.

The Waste Act has repealed sections of the ECA dealing with waste management. More specifically these repealed sections are:

- 19: Prohibition of littering. This is now dealt with under Section 27 of the Waste Act.
- 19A: Removal of litter.
- 20: Waste Management. This section dealt with permitting of waste facilities, but is now replaced by Chapter 5 (Sections 43 – 59) of the Waste Act.

Waste management, more specifically with regard to landfill disposal site permitting and related matters, was until its recent repeal through the Waste Act, coordinated and controlled under Section 20 of the ECA, as follows.

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In order to implement section 20 of the ECA, DWAF previously issued the above mentioned permits subject to specified conditions stipulated in the DWAF Minimum Requirements: Waste Management Series 5.

- 24: This section provided the framework for waste regulations to be formulated. This issue is now covered by Chapter 8, Part 1 (Regulations) (Sections 69 – 71) of the Waste Act.
- 24A, 24B and 24C: Similarly these sections which dealt with regulations regarding littering, products, and procedures for making regulations respectively are now addressed by Chapter 8, Part 1 of the Waste Act.
- 29: Sections (3) and (4), which deal with Offences and Penalties have been substituted by the Waste Act.

Despite the fact that the Waste Act repeals section 19, 19A, 20, 24, 24A, 24B, and 24C of the ECA, it should be noted that in accordance with Section 80(2) of the Waste Act, any regulations or directions made in terms of these repealed sections of the ECA, remain in force and are considered to have been made under the Waste Act.

### **National Environmental Management: Waste Act**

#### **(a) Overview**

The National Environmental Management: Waste Act (Act 59 of 2008) (NEMWA) was promulgated on 01 July 2009, marking a new era in waste management in South Africa (with the exception of a number of sections which will be brought into effect at dates still to be gazetted). The act covers a wide spectrum of issues including requirements for a National Waste Management Strategy, IWMPs, definition of priority wastes, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, waste information management, as well as addressing contaminated land.

However, South African waste management legislation is still fragmented. Mining; radioactive waste; disposal of explosives; and disposal of animal carcasses, which are covered by specific other regulations is not addressed by the act. The Waste Act does however constitute South Africa's overarching primary waste legislation.

#### **(b) Objectives of the Waste Act**

The National Environmental Management: Waste Act's objectives are -

To protect health, well-being and the environment by providing reasonable measures to -

- Minimising the consumption of natural resources.
- Avoiding and minimising the generation of waste.
- Reducing, re-using, recycling and recovering waste.
- Treating and safely disposing of waste as a last resort.
- Preventing pollution and ecological degradation.
- Securing ecologically sustainable development while promoting justifiable economic and social development.
- Promoting and ensuring the effective delivery of waste services.
- Remediating land where contamination presents, or may present a significant risk of harm to health or the environment. and
- Achieving integrated waste management reporting and planning.

- To ensure that people are aware of the impact of waste on their health well-being and the environment.
- To provide for compliance with the measures set out in paragraph (a) and
- Generally, to give effect to section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being.

The Chapters and topics of the Waste Act are as follows:

Chapter 1 - Interpretation and Principles

Chapter 2 - National Waste Management Strategy, Norms and Standards

Chapter 3 - Institutional and Planning Matters

Chapter 4 - Waste Management Measures

Chapter 5 - Licensing of Waste Management Activities

Chapter 6 - Waste Information

Chapter 7 - Compliance and Enforcement

Chapter 8 - General Matters.

### (c) Roles and Responsibility

The Act establishes a national framework for waste planning, regulation and management with roles for all spheres of government, specifically:

- National government is tasked with establishing a national waste management strategy, including norms, standards and targets. National norms and standards may cover all aspects of the waste value chain, from planning to service delivery. Of particular importance from an intergovernmental perspective are the powers of national government with respect to norms and standards for:
- The regionalization of waste management services.
- Tariffs for waste services provided by municipalities, including providing for tariffs to be imposed to provide for waste management infrastructure or facilities and ensuring that funds obtained from the provision of waste services are used for the delivery of these services.
- Provincial governments are tasked with the implementation of the national waste management strategy and national norms and standards, and may set additional, complementary provincial norms and standards. The Waste Act notes that these norms and standards must amongst other things facilitate and advance regionalization of waste management services.
- Local governments are required to ensure the universal and sustainable delivery of services, subject to national and provincial regulation. In particular, they are required to maintain separate financial statements, including a balance sheet of the services provided.

The table below lists sections of the act which make specific demands on Local (municipal) government: Tasks falling under sections of the act which have yet to be enacted have not been listed. While certain sections of the text are taken verbatim from the Act, interpretation has been added.

### Tasks required by governmental entities in terms of NEM:WA.

TOPIC	SECTION	REQUIREMENT
<b>General duty</b>	3	The state <b>must</b> put in place measures that seek to reduce the amount of waste generated, and where waste is generated, ensure that it is re-used, recycled and recovered in an environmentally sound manner.

TOPIC	SECTION	REQUIREMENT
<b>Waste service standards</b>	9 (1) & (2)	A municipality must deliver waste management services, including waste removal, storage and disposal services in adherence to the national and provincial norms and standards (section 7 and 8 of the Act); whilst: <ul style="list-style-type: none"> <li>• Integrating the IWMP and IDP</li> <li>• Ensuring access to services</li> <li>• Ensuring affordable service delivery</li> <li>• Ensure effective and efficient Sustainable and Financial management</li> </ul>
	9 (3)	The Municipality may furthermore set local standards: <ul style="list-style-type: none"> <li>• For separating, compacting and storing waste</li> <li>• Management of solid waste, i.e.: Avoidance, Minimisation, Recycling</li> <li>• Coordination of waste to relevant treatment or disposal facilities</li> <li>• Litter control</li> </ul>
<b>Designation of Waste Management Officers</b>	10(3)	The Municipality must designate in writing a waste management officer from its administration to be responsible for coordinating matters pertaining to waste management in that municipality
<b>Integrated Waste Management Plans</b>	11 (4) & (7)	<ul style="list-style-type: none"> <li>• The Municipality must submit an IWMP to the MEC for approval (response from the MEC must be given within 30 days)</li> <li>• Include the approved IWMP into its IDP</li> <li>• Follow the consultative process in section 29 of the Municipal Systems Act (separately or as part of IDP)</li> </ul>
	12	<p>Contents for IWMP's, includes:</p> <ul style="list-style-type: none"> <li>• A situational analysis</li> <li>• a plan of how to give effect to the Waste Act</li> <li>• municipal waste management and services obligations</li> <li>• prioritisation of objectives</li> <li>• setting of targets</li> <li>• planning approach to any new disposal facilities; and</li> <li>• Financial resourcing.</li> </ul>
	13	An annual performance report prepared in terms of section 46 of the Municipal Systems Act must contain information on the implementation of the municipal IWMP.

(d) Industry Waste Management Plans

For industries, the Waste Act states that either the Minister or the relevant provincial MEC may under certain conditions and by written notice or by notice in the Gazette require a person or industry to prepare and submit an Industry Waste Management Plan.

(e) Waste Licensing for listed Activities

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The Minister has subsequently gazetted (on 03 July 2009) GN No. 718 (Gazette No. 32368) and 719 (Gazette No. 32369) which present a Waste Management Activity Lists describing those waste activities, and thresholds, which require authorisation before they are undertaken. This list was amended in 2013 (Gazette No 921 of 2013) and again in 2017 (Gazette No, 1094 of 2017). The Waste Act Schedule 1 (Section 19) identifies activities which require a waste management licence. Activities include:

- Recycling and recovery.
- Treatment of waste.
- Disposal of waste on land.
- Construction, expansion or decommissioning of facilities and associated structures and infrastructure.

Either a Basic Assessment or Scoping and Environmental Impact Assessment (EIA) process is to be carried out with regards to acquiring a licence as stipulated in the environmental impact assessment regulations made under section 24 (5) of the Waste Act).

#### (f) Integrated Waste Management Planning

The Waste Act also places considerable emphasis on the development of an integrated waste planning system, through the development of interlocking Integrated Waste Management Plans (IWMPs) by all spheres of government and specified waste generators. This planning system is the primary tool for cooperative governance within the sector. While the requirement for these plans is new for national and provincial governments, and for waste generators, this is not the case for local governments who had been able to voluntarily prepare such plans within their Integrated Development Plans (IDPs). IWMPs are mandatory for national and provincial government and specified waste generators, but the situation for local government is made a little more ambiguous by the Constitutional assignment of concurrent powers to provincial and local governments in this respect, with only limited authority assigned to national government.

#### (g) Norms, standards, tariffs and financial Management Systems

Other focal areas of the Waste Act include provisions for the development of norms and standards, tariffs and financial management systems. These powers all largely repeat existing national or provincial powers that are provided for in other legislation. The key change is that the Minister of Environmental Affairs now assumes these powers in terms of the Act, although concurrently with other authorised Ministers notably in Local Government and Finance portfolios.

Certain sections of the act have yet to be enacted, including the following:

- Section 28 (7), which makes allowance for of a person, category of person or industry to compile and submit an industry waste management plan for approval to the MEC, without being required to do so by the MEC.

Section 46, which allows the licensing authority to require an applicant seeking a waste management licence to appoint an independent and qualified person to manage the application.

#### **National Environmental Management: Air Quality Act**

The National Environmental Management: Air Quality Act (39 of 2004) requires that appropriate consideration must be given to the emissions arising from waste management



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practices, processes and procedures. Many facets of waste management are associated with atmospheric emissions, for example, waste transportation is associated with carbon dioxide released from vehicles, and methane and carbon dioxide which are released from landfill sites.

The Air Quality Act was published in the Government Gazette on 24 February 2005 and came into effect in September 2005. This Act, amongst others, provides for the implementation of a National Framework, of national, provincial and local ambient air quality and emission standards and air quality management plans. These implementations are currently in progress.

### **Atmospheric Pollution Prevention Act**

Prior to the Air Quality Act coming into full effect, the control of atmospheric emissions of noxious, hazardous and nuisance causing materials was controlled by the Atmospheric Pollution Prevention Act (APPA) (Act 45 of 1965) and its amendments. The administration of the APPA has been assigned to the Air Pollution Control Department under the Department of Environmental Affairs & Tourism.

Those sections addressing the management of dust are of importance for landfill site management. Sections 27 – 35 state that industries should adopt the “best practicable means” for preventing dust from becoming dispersed or causing a nuisance. The act also empowers owners or occupiers present in the vicinity of the source of dust/nuisance to take or adopt necessary steps or precautions against the nuisance. Where steps have not been prescribed, owners must adopt the “best practicable means” for the abatement of the nuisance. Should any person/s such as for example, waste management service providers, not comply with the necessary steps to prevent owners/occupiers from the effects of dust, the person/s may be liable to pay a dust control levy to the minister.

### **National Water Act**

The National Water Act (Act 36 of 1998) is South Africa’s overarching piece of legislation dealing with water resource management. It contains a number of provisions that impact on waste management, including:

- Ensuring the disposal of waste in a manner, which does not detrimentally impact on water resources.
- Managing the discharge of waste into water resources.

The Act allows the Minister to make regulations for:

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

### **Occupational Health and Safety Act**

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The purpose of the Occupational Health and Safety Act (OHSA) (Act 85 of 1993) and associated regulations is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

A sound waste management strategy and planning must take into account the safety of persons involved in the practical implementation thereof, with reference in particular to any waste services carried out by municipal officials; and waste service providers and their employees.

Core to OHSA are the principles and core duties of employers and employees as legislated in Sections 8, 9 and 14 thereof.

Section 8(1) stipulates that “Every employer shall provide and maintain, as far as is reasonable practicable, a working environment that is safe and without risk to the health of his employees”.

Section 9(1) stipulates that “Every employer shall conduct his undertaking in such a manner as to ensure, as far as is reasonably practicable, that persons other than those in his employment who may be directly affected by his activities are not thereby exposed to hazards to their health or safety.” Subsection (2) imposes a similar duty on every self-employed person.

Section 14(a) imposes a duty on every employee at work to take reasonable care for the health and safety of himself and of other person who may be affected by his acts or omissions. An employee is also required to co-operate with his employer concerning his duties in terms of the Act and to obey health and safety rules and procedures laid down by his employer.

In addition the OHSA further protects workers with regard to Hazardous Chemical Substances through specific regulations. Asbestos regulations deal with specific asbestos containing waste management.

It is likely that the OSHA also places an obligation on the Municipality, to ensure that service providers maintain compliant Health and Safety procedures. This would be relevant in the case of outsourced, waste management functions.

## **Health Act**

The Health Act (Act 63 of 1977) focuses on the promotion of the health of the people and the provision of processes to enable this objective to be achieved. Sections 20, 34 and 38 of the Act are relevant to waste management.

Section 20, requires authorities to take lawful and reasonable practical measures to maintain their areas in a hygienic and clean condition to prevent an unhealthy environment for people.

Sections 34 and 38 of the act authorise the National Minister of Health to make regulations, which may directly impact on waste management.

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## **Hazardous Substances Act**

The Hazardous Substances Act (Act 15 of 1973) governs the control of substances that may cause ill health or death in humans by reason of their toxic, corrosive, irritant, flammability or pressure effects. The Act provides for the regulation of the storage, handling, labelling and sale of Group I, II, and III hazardous substances. A license is required for an operation that stores, handles and sells Group I substances. Section 29(1) of the Act regulates the disposal of the empty containers, which previously held Group I substances.

No national, local provincial or local municipal regulations have been promulgated under the Act for the on-site management of Group II hazardous substances.

The relevance of the Act with regard to waste management is captured as certain waste types may be categorised into the various groupings under the Act as noted above.

## **National Road Traffic Act**

The United Nations (UN) recommendations on the transport of dangerous goods have been used to produce sections of the National Road Traffic Act (Act 93 of 1996). In addition, and in terms of other regulations published under the Act, certain South African Bureau of Standards (SABS) Codes of Practice have been incorporated as standard specifications into the National Road Traffic Regulations (GNR 1249 of 13 November 2001). These codes have been based on the UN recommendations, also known as “The Orange Book” and the associated European Agreement concerning the International Carriage of Dangerous Goods by Road Regulations.

The codes of practice so incorporated include e.g. the following:

- SANS 10228:2006 Edition 4.00: The identification and classification of dangerous goods for transport.
- SANS 10229-1:2005 Edition 1.00: Transport of dangerous goods - Packaging and large packaging for road and rail transport Part 1: Packaging.
- SANS 10229-2:2007 Edition 1.00: Transport of dangerous goods - Packaging and large packaging for road and rail transport Part 2: Large packaging.
- SANS 10232-1:2007 Edition 3.00: Transport of dangerous goods - Emergency information systems Part 1: Emergency information system for road transport.
- SANS 10232-2:1997 Edition 1.00: Transportation of dangerous goods - Emergency information systems Part 2: Emergency information system for rail transportation.
- SANS 10232-3:2007 Edition 3.00: Transport of dangerous goods - Emergency information systems Part 3: Emergency response guides.
- SANS 10232-4:2007 Edition 1.01: Transport of dangerous goods - Emergency information systems Part 4: Transport emergency card.
- SANS 10233:2001 Edition 2.00: Transportation of dangerous goods - Intermediate bulk containers.

The transportation of all waste products should adhere to the above where applicable, noting that certain waste/ refuse may be categorised as dangerous goods.

## **Advertising on Roads and Ribbon Development Act**

The Advertising on Roads and Ribbon Development Act (Act 21 of 1940) regulates, amongst other things, the depositing or discarding of waste near certain public roads, and the access

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to certain land from such roads. To the extent as outlined in Proclamation 23 in Government Gazette 16340 of 31 March 1995, the administration of this Act has been assigned to the provinces. In terms of section 8 of the Act, no person shall within a distance of 200 metres of the centre line of a public road deposit or leave outside an urban area, so as to be visible from that road, a disused vehicle or machine or a disused part of a vehicle or machine or any rubbish or any other refuse, except in accordance with the permission in writing granted by the controlling authority concerned. The controlling authority may remove any object or substance referred to found on a public road and may recover the cost of the removal from the person who deposited or left such object or substance there.

When any person has deposited or has left any object or substance in contravention of the above, but not on a public road, the controlling authority concerned may direct the person in writing to remove or destroy that object or substance within such period as may be specified in the direction. If the person fails to comply with that direction, the controlling authority may cause the object or substance to be removed or destroyed any may recover from the said person the cost of the removal or destruction. The preceding provision do not apply to any object or material which has been or is being used for or in connection with farming, or to soil excavated in the course of alluvial digging: provided that this sub-section shall not permit the deposit or leaving of any article or material on a road.

### **Waste Tyre Regulations**

The Waste Tyre Regulations were first published as Government Notice R.149 on 13 February 2009 and came into effect on 30 June 2009. These regulations were amended in 2016 in General Notice R. 1493 of 2016. The latest Waste Tyre Regulations (R1064 of 2017) were published on 29 September 2017 and came into effect immediately. The purpose of the legislation is to regulate the management of waste tyres by providing for the regulatory mechanisms. The regulations apply uniformly in all provinces in South Africa and affect waste tyre producers, waste tyre dealers, waste tyre stockpile owners, landfill site owners and tyre recyclers.

In summary, the regulation:

- Defines a waste tyre as a new, used, re-treaded, or un-roadworthy tyre, not suitable to be re-treaded, repaired or sold as a part worn tyre and not fit for the original intended use.
- Prohibits management, recycling, recovery or disposal of a waste tyre at any facility or on any site, unless such an activity is authorised by law.
- Prohibits recovery or disposal of a waste tyre in a manner that may or may potentially cause pollution or harm to health.
- Prohibits purchase, sale or export of waste tyres unless authorised.
- Prohibits disposal of a waste tyre at a waste disposal facility, two years from the gazetted date, unless such a waste tyre has been cut into quarters; and prohibits disposal of tyres in five years; unless these are shredded.
- Provides regulations in terms of tyre producers, tyre dealers and tyre stockpile owners, particularly regarding waste stockpile abatement and waste tyre storage.

### **Asbestos Regulations**

On 28 March 2008, the Minister of Environmental Affairs and Tourism published as Government Notice R.341 of 2008 entitled “Regulations for the prohibition of the use, manufacturing, import and export of asbestos and asbestos containing materials” under

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Section 24B of ECA (thus now the Waste Act). This would have implication for phasing out of asbestos containing material, which may therefore result in higher quantities of asbestos waste.

### **Mineral and Petroleum resources Development Act**

The objective of the Mineral and Petroleum resources Development Act (No. 28 of 2002) , amongst others, is to give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

### **Municipal Structures Act**

The main objective of Local Government: Municipal structures Act (Act 117 of 1998) is to provide for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality, to provide for an appropriate division of functions and powers between categories of municipality, to provide appropriate electoral systems and to provide for matters connected therewith.

The functions and powers of municipalities are set out in Chapter 5 of the Act, with a municipality having the functions and power assigned to it in terms of sections 156 and 229 (dealing with fiscal powers and functions) of the constitution.

### **Municipal Systems Act**

As intended by the Constitution, Waste management services such as refuse collection, removal, transportation and disposal is generally the responsibility of local municipalities<sup>6</sup>. Municipal Systems Act (Act 32 of 2000) with respect to the Local Government Municipal Systems Act (MSA) defines a municipal service as follows:

“A serviced that a municipality in terms of its powers and functions provides or may provide for the benefit of the local community irrespective of whether

(a) Such a service is provided, or to be provided, by the municipality through an internal mechanism contemplated in section 76 or by engaging an external mechanism contemplate in section 76; and

(b) fees, charges or tariffs are levied in respect of such a service or not.”

Chapter 8 Section 73 - 82 outlines certain general duties on municipalities in relation to the municipal service as highlighted below.

In terms of section 75(1), a municipality must give effect to the provisions of the Constitution and must:

- Give priority to the basic needs of the local community.
- Promote the development of the local community.

Ensure that all members of the local community have access to at least the minimum level of available resources and the improvement of standards of quality over time.

In terms of section 75(2), municipal services must – be equitable and accessible; be provided in a way, which promotes the prudent, efficient and effective use of available resources and

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the improvement of standards of quality over time; be financially sustainable; be environmentally sustainable, and be regularly reviewed with a view to upgrading, extension and improvement.

Section 74 regulates tariff policy in respect of municipal services. A municipality is obliged to adopt and implement a tariff policy on levying fees for municipal services. A municipality's tariff policy must reflect at least the following principles:

- People who use municipal services must be treated equitably in the application of tariffs.
- In general terms, what individual users pay for services should be in proportion to their use of the services.
- Poor households must have access to at least basic services. Different ways of providing for this are suggested, for example lifeline tariffs and subsidisation.
- Tariffs must reflect the costs reasonable associated with providing the service for example capital, operating, maintenance, administration and replacement costs and interest charges.
- Tariffs must be set at levels which allow the service to be financially sustainable.
- In appropriate circumstances, surcharges on tariffs may be allowed.
- Special tariffs may be set for categories of commercial and industrial users in order to promote local economic development.
- The economical, efficient and effective use of resources must be promoted, as well as the recycling of waste and other appropriate environmental objectives
- Any subsidisation of tariffs should be fully disclosed.

Section 78 prescribes the process which municipalities must follow when they decide through which mechanism to provide a municipal service in their areas. There are particular provisions, which a municipality must comply with when it provides a municipal service through a service delivery agreement with what the MSA terms "external mechanisms".

The MSA contains extensive provisions pertaining to public participation. In particular, the community has the right to contribute to decision-making processes by its municipality. A municipal council must establish appropriate mechanisms, processes and procedures to enable residents, communities and stakeholders in the municipality to participate in the local affairs. It is pertinent to reiterate that waste management services as provide by the municipality is an integral part of local affairs.

As such municipalities' mechanisms must provide for:

- The receipt, processing and consideration of petitions and complaints lodged by residents, communities and stakeholders in the municipality.
- The receipt, processing and consideration of written objections and representations with regard to any matter to which it is required to invite public comment.
- Public meetings of residents, on a ward or any other basis.
- Public hearings by the council and its committees when appropriate.
- Surveys among residents when appropriate and the processing and publication of the results.

### **Development Facilitation Act**

The Development Facilitation Act (Act 67 pf 1995) provides specific principles for:

- Land development and conflict resolution.

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- Controls on land occupation.
  - Recognition of informal land-development practices.

These principles are set out in sections 3 and 4 of the Development Facilitation Act and form the basis for most of the integrated development plan. Chapter one of the Development Facilitation Act sets out principles which affect all decisions relating to the development of land.

This means that whenever a municipality, a development tribunal, a Member of the Executive Council (MEC) or any other authority is considering an application for the development of land, they must make sure that their decision is consistent with these principles. Any integrated development plan must, in terms of the Local Government Transition Act, be based on these principles too.

The Development Facilitation Act's principles form the basis of integrated development planning - in particular the land-development objectives. In terms of section 2 of the Act, the general principles which are set out in section 3 of the Act include:

- Policy, administrative practice and the law should promote efficient and integrated land development in that they:
- Promote the integration of the social, economic, institutional and physical aspects of land development.
- Promote integrated land development in rural and urban areas in support of each other.
- Encourage environmental sustainable land development practices and processes.
- Members of communities affected by land development should actively participate in the process of land development.
- Policy, administrative practice and laws should encourage and optimize the contributions of all sectors of the economy (government and non-government) to land development so as to maximize the Republic's capacity to undertake land development.
- Laws, procedures and administrative practice relating to land development should:
- Be clear and generally available to those likely to be affected thereby.
- In addition to serving as regulatory measures, also provide guidance and information to those affected thereby.
- Be calculated to promote trust and acceptance on the part of those likely to be affected thereby.
- Give further content to the fundamental right set out in the constitution.
- Policy, administrative practice and laws should promote sustainable land development at the required scale, in that they should, inter alia, promote sustained protection of the environment.
- Policy, administrative practice and law should promote speedy land development.
- Each proposed land development area should be judged on its own merits and no particular use of land, such as residential, commercial, conservation, industrial, community facility, mining, agricultural or public use, should in advance or in general, be regarded as being less important or desirable than any other use of land.
- A competent authority at national, provincial and local government level should co-ordinate the interests of the various sectors involved in or affected by land development so as to minimize conflicting demands on scarce resources.

### **The Physical Planning Act**

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

### **Promotion of Administrative Justice**

The purpose of the Promotion of Administrative Justice Act (“PAJA”) (Act 3 of 2000) is principally to give effect to the right to administrative action that is lawful, reasonable and procedurally fair; and to the right to written reasons for administrative action as contemplated in section 33 of the Constitution; and to provide for matters incidental thereto.

Administrative law governs the relationships between public bodies, and between public and private bodies and/or individuals. Many activities which affect the environment, including certain waste management activities, require authorisation from a public body. Because environmental conflicts may arise during the authorisation process from the exercise of administrative decision-making powers, administrative law principles are of particular relevance to environmental law generally, and specifically in the context of the environmental authorisation requirements stipulated by the provisions of section 24 of the NEMA read with its subordinate legislation regulating environmental impact assessment (or “EIA”).

### **Promotion of Access to Information**

Promotion of Access to Information, (Act 2 of 2000) is closely linked to the notion of administrative justice is the right of access to information. Without access to information, a person may be unable to determine whether or not his or her right to just administrative action (or to an environment not harmful to human health or well-being or, for that matter, any other Constitutional right) has been infringed. The purpose of the Promotion of Access to Information Act (“PAIA”) is to give effect to the Constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights, and to provide for matters connected therewith.

### **National Policies and Guidelines**

#### **White Paper on Environmental Waste Management**

The White Paper on Environmental Management was published in 1998. This policy sets out government’s objectives in relation to environmental management, how it intends to achieve its objectives, and to guide government agencies and organs of state in developing strategies to meet their objectives.

The policy document is an overarching policy framework that refers to all government institutions and to all activities that impact on the environment. The policy states that government will allocate functions to the institutions and spheres of government that can most effectively achieve the objectives of sustainable development and integrated environmental management. This would include the allocation of certain functions to the municipal sphere of government. Where appropriate, provincial and local governments are to develop their own legislation and implementation strategies in order to address their specific needs and conditions within the framework of the policy.



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## **White Paper on Integrated Pollution and Waste Management**

The White Paper on Integrated Pollution and Waste Management (1999) is a subsidiary policy of the overarching environmental management and constitutes South Africa's first policy document focused on integrated waste management. This national policy set out Government's vision for integrated pollution and waste management in the country and applies to all government institutions and to society at large and to all activities that impact on pollution and waste management.

Integrated pollution and waste management is defined as a holistic and integrated system and process of management aimed at pollution prevention and minimisation at source, managing the impact of pollution and waste on the receiving environment and remediating damaged environments. Waste management is to be implemented in a holistic and integrated manner and extend over the entire waste cycle from cradle-to-grave and will include the generation, storage, collection, transportation, treatment and the final disposal of waste.

The overarching goal reflected in the policy, is integrated pollution and waste management. The intention is to move away from fragmented and uncoordinated pollution control and waste management, towards an approach that incorporates pollution and waste management as well as waste minimisation.

Within this framework, the following strategic goals apply:

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

The strategic mechanisms include the following:

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

## **National Waste Management Strategy**

The first NWMS was published in 1999 by the then DEAT and the then DWAF. It was the first strategy for addressing South Africa's waste management challenges. The strategy effectively defines South Africa's vision for waste management highlighting themes such as "cradle to grave" management of waste products and the waste management hierarchy which encourages waste disposal only as a last resort.

The NWMS was been revised in 2011 in line with Chapter 2, Part 1, of the Act which requires the establishment of a NWMS within two years of the Act coming into effect. Significant changes include the addition of "remediation" to the waste management hierarchy, and the consolidation of what was previously many different action plans into a single action plan. The 2011 strategy defines eight strategic goals with a number of targets, as presented in the table below. The NWMS strategy is currently under review and is anticipated to be gazetted in 2019.

#### Goals and targets of the NWMS (2011)

Goal	Description	Targets 2016
<b>Goal 1</b>	Promote waste minimisation, re-use, recycling and recovery of waste.	<ul style="list-style-type: none"> <li>25% of recyclables diverted from landfill sites for re-use, recycling or recovery.</li> <li>All metropolitan municipalities, secondary cities and large towns have initiated separation at source programmes.</li> <li>Achievement of waste reduction and recycling targets set in Industry IWMPs for paper and packaging, pesticides, lighting (CFLs) and tyre industries</li> </ul>
<b>Goal 2</b>	Ensure the effective and efficient delivery of waste services.	<ul style="list-style-type: none"> <li>95% of urban households and 75% of rural households have access to adequate levels of waste collection services.</li> <li>80% of waste disposal sites have permits.</li> </ul>
<b>Goal 3</b>	Grow the contribution of the waste sector to the green economy.	<ul style="list-style-type: none"> <li>69 000 new jobs created in the waste sector</li> <li>2 600 additional SMEs and cooperatives participating in waste service delivery and recycling</li> </ul>
<b>Goal 4</b>	Ensure that people are aware of the impact of waste on their health, well-being and the environment.	<ul style="list-style-type: none"> <li>80% of municipalities running local awareness campaigns.</li> <li>80% of schools implementing waste awareness programmes.</li> </ul>
<b>Goal 5</b>	Achieve integrated waste management planning.	<ul style="list-style-type: none"> <li>All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs.</li> <li>All waste management facilities required to report to SAWIC have waste quantification systems that report information to WIS.</li> </ul>
<b>Goal 6</b>	Ensure sound budgeting and financial management for waste services.	<ul style="list-style-type: none"> <li>All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs.</li> </ul>
<b>Goal 7</b>	Provide measures to remediate contaminated land.	<ul style="list-style-type: none"> <li>Assessment complete for 80% of sites reported to the contaminated land register.</li> <li>Remediation plans approved for 50% of confirmed contaminated sites.</li> </ul>
<b>Goal 8</b>	Establish effective compliance with and enforcement of the Waste Act.	<ul style="list-style-type: none"> <li>50% increase in the number of successful enforcement actions against non-compliant activities.</li> <li>800 EMIs appointed in the three spheres of government to enforce the Waste Act.</li> </ul>

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The overall objective of this strategy is to reduce the generation of waste and the environmental impact of all forms of waste and thereby ensure that the socioeconomic development of South Africa, the health of the people and the quality of its environmental resources are no longer adversely affected by uncontrolled and uncoordinated waste management.

The internationally accepted waste hierarchical approach was adopted of waste prevention/minimization, recycle/reuse, treatment and finally disposal. The strategy outlines the functions and responsibilities of the three levels of government and where possible, firm plans and targets are specified.

Action plans have been developed for reaching all of the eight goals.

### **Polokwane Waste Summit Declaration**

During September 2001 a national waste summit was held at Polokwane, in the Northern Province. It was attended by key stakeholder groupings in the waste field in order to jointly chart a way forward in terms of national waste management. The resultant Polokwane Declaration includes a vision and goal for the management of all waste, i.e. domestic, commercial and industrial:

**Vision** – To implement a waste management system that contributes to sustainable development and a measurable improvement in the quality of life, by harnessing the energy and commitment of all South Africans for the effective reduction of waste.

**Goals** - To reduce waste generation and disposal by 50% and 25% respectively by 2012 and develop a plan for zero waste by 2022

Key actions in the Polokwane Declaration include the following:

- Implement the National Waste Management Strategy.
- Develop and implement legislative and regulatory framework.
- Waste reduction and recycling.
- Develop waste information and monitoring systems.

### **Local Government Turnaround Strategy**

Cabinet approved the Local Government Turnaround Strategy (LGTAS) on the 3 December 2009 in Pretoria. The LGTAS recognised that each municipality faces different social and economic conditions and has different performance levels and support needs. Thus a more segmented and differentiated approach was required to address the various challenges of municipalities. In addition cabinet recognised that the problems in Local Government are both a result of internal factors within the direct control of municipalities as well as external factors over which municipalities do not have much control. (Department of Cooperative Governance and Traditional Affairs, Dec 2009.)

The LGTAS identifies the internal factors related to for example the following:

- Quality of decision-making by Councillors.
- Quality of appointments.
- Transparency of tender and procurement systems and levels of financial management and accountability.
- Levels of financial management and accountability.

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The external factors relate to:

- Revenue base and income generation potential.
- Inappropriate legislation and regulation.
- Demographic patterns and trends.
- Macro and micro-economic conditions.
- Undue interference by political parties and weaknesses in national policy.
- Oversight and Inter-Governmental Relations.

Ultimately the aim of the LGTAS is to:

- Restore the confidence of the majority of our people in our municipalities, as the primary delivery machine of the developmental state at a local level.
- Re-build and improve the basic requirements for a functional, responsive, accountable, effective, and efficient developmental local government.

The LGTAS sets out five strategic objectives with associated key interventions. Probably most relevant in the context of waste management is the first objective, i.e. to *“Ensure that municipalities meet basic needs of communities. This implies that an environment is created, support provided and systems built to accelerate quality service delivery within the context of each municipality’s conditions and needs”*.

Interventions to achieve the various objectives include better organisation by National Government and improved support and oversight from provinces in relation to Local Government. Furthermore municipalities are to reflect on their own performance and tailor-made turnaround strategies, while all three spheres of governments should improve inter-governmental relations. Also, political parties are to promote and enhance institutional integrity of municipalities and a social compact on Local Government where all citizens are guided in their actions and involvement by a common set of governance values.

In terms of the LGTAS an immediate task is for agreements to be reached with each province on the roll-out programme to establish different provincial needs and capacities, which will guide how municipalities are to be supported to prepare and implement their own tailor-made turnaround strategies that must be incorporated into their IDPs and budgets (by March 2010). Key stakeholders and ward committees were to be mobilised early in 2010. By July 2010, all municipalities were to be in full implementation mode of the national and their own Turn-around Strategies. (Department of Cooperative Governance and Traditional Affairs, Dec 2009.)

### **Minimum Requirements Documents; Department of Water Affairs and Forestry**

The DWAF Minimum Requirements: Waste Management Series were formulated in the form of guideline documents as a joint venture between DWAF and the Department of Environmental Affairs and Tourism (DEAT).

The objective of the Minimum Requirements is to establish a framework for standards for waste management in South Africa. The former DWAF published the second edition of the Minimum Requirements series in 1998, consisting of the following three documents:

- Document 1: Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste.
- Document 2: Minimum Requirements for Waste Disposal by Landfill.

- Document 3: Minimum Requirements for Monitoring at Waste Management Facilities.

The third edition was released in draft form in 2005, but only Document 1 (DEAT, 2005) has been finalised.

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

- Prevent water pollution and to ensure sustained fitness for use of South Africa's water resources.
- Attain and maintain minimum waste management standards in order to protect human health and the environment from the possible harmful effects caused by the handling, treatment, storage and disposal of waste.
- Effectively administer and provide a systematic and nationally uniform approach to the waste disposal process.
- Endeavour to make South African waste management practices internationally acceptable.
- Ensure adherence to the Minimum Requirement conditions from the permit applicant, before a waste disposal site permit is issued.
- Promote the hierarchical approach to waste management, as well as a holistic approach to the environment.

The series formed the basis for the permitting process that had been required in terms of Section 20 of the ECA. The requirements, standards and procedures covered in the series had generally been included as permit conditions, thereby becoming legally binding on the permit holder. In addition to requirements for the establishment and operation of a landfill site, the permit holder was generally required to operate, maintain and attend to the closure of a waste disposal site in compliance with the permit conditions, as well as in accordance with the guidelines set out in the Minimum Requirements documents. Note that an EIA must be conducted prior to the establishment of waste disposal facilities. However, the above mentioned waste activity has now been repealed and instead requires a license application under the Waste Act.

The third edition was released in draft form in 2005, but only Document 1 (DEAT, 2005) has been finalised.

14

### **National Policy for Basic Refuse Removal Services to Indigent Households**

The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (GN No. 34385) was published in the Government Gazette in June 2011. The purpose of this policy is to ensure that indigent households have access to at least a basic refuse removal (BRR) service.

This Policy aligns to existing relevant legislation, as in accordance to 74 (2)(c) of the Municipal Systems Act, 2000 (Act No. 32 of 2000) poor households must have access to at least basic services and section 9 (2) of NEMWA (Act 59 of 2008) which stipulates that each municipality must exercise its executive authority and perform its duty in relation to waste services, including waste collection, waste storage and waste disposal, by (c) ensuring access for all to such services.

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The objectives of the policy are to identify households that can be enrolled for the BRR service, establish bylaws to enforce tariff policies that will support the BRR service and to raise awareness within the municipality with regard to correct handling of domestic waste for BRR and the need to minimize waste and recycle.

Implementation plans include each municipality:

- declaring specific localities as the recipients of basic refuse removal services;
- maintaining “accurate and updated” registers of indigent people;
- taking action in the event of malpractice;
- integrating basic refuse removal into “basic indigent policies”;
- designating the administration of the policy to the “most appropriate department”;
- and
- raising awareness.

The policy includes a “grid of responsibilities” for each sphere of government and a policy monitoring and evaluation plan. According to the grid of responsibilities, national government will take responsibility for building capacity at provincial and municipal level, with provincial government determining municipal capacity and assisting district municipalities in “drawing up guidelines”.

15

### **National Policy in Thermal Treatment of General and Hazardous Waste**

The Thermal Waste Treatment of General and Hazardous Waste Policy was gazetted (GN No. 32439) for public comment on 30 January 2009 and published under the Waste Act on 24 July 2009. The policy presents the Government’s position on thermal waste treatment as an acceptable waste management option in South Africa. It also provides the framework within which incineration and co-processing treatment technologies of general and hazardous waste should be implemented in the country.

All Government Departments across the different spheres of government must consider this policy in their decision making on matters pertaining to thermal treatment of waste.

The policy presents objectives which vary thematically. These consider the integration of thermal waste treatment into the integrated waste management system. Schedules one to four provide guidelines on the following:

#### **(a) Air Emission Standards – Waste Incineration**

Listed air emission standards for general and hazardous waste incinerators, brought into operation subsequent to the final gazetting of this policy, to be complied with until the formalisation of The Minimum Emission Standards in terms of Section 21 of the National Environmental Management: Air Quality Act of 2004.

#### **(b) Air Emission Standards – AFR Co-Processing**

The Minimum Emission Standards for Alternative Fuels and Raw Materials (AFR) co-processing is currently in the process of being formalised in terms of Section 21 of the National Environmental Management: Air Quality Act of 2004. In the interim this policy constitutes the air emission standards for all cement kilns co-processing AFR.

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### (c) Waste Excluded from Co-Processing

Listed types of waste that are not allowed to be received, stored, handled or co-processed in cement kilns.

### (d) Conditions of Environmental Authorisation

Any cement plant co-processing general or hazardous waste as alternative fuels and/or raw materials, and any dedicated general and/or hazardous waste incinerator must have the relevant approvals from the competent authority. This schedule includes notes on operational management, air quality management, waste management and monitoring and reporting.

## **National Waste Information Regulations**

The National Waste Information Regulations came into effect on 01 January 2013. These cover registration of persons who conduct certain waste management activities and their duty to keep records. Annexure 1 of the regulations lists activities including recovery and recycling, treatment and disposal of waste for which the person conducting the activity must register in terms of GR 625 of 2012. The municipality has a duty in terms of waste disposal to land (as well as operating waste recycling or treatment facilities) to report waste types and quantities in accordance with these regulations to SAWIC on a quarterly basis. Amendments to the National Waste Information Regulations were released for public comment in July 2018 (GN 701 of 2018), the major change in the regulations was the requirement for waste transporters to register. Other proposed changes to the regulations were a decrease in the allowable reporting timeframes from the closure of a reporting period from 60 days to 30 days and registration and reporting thresholds recovery of hazardous waste being decreased from 500kg to 100kg a day.

## **National Policy for the provision of basic refuse removal services to indigent households**

The National Policy for the provision of basic refuse removal services to indigent households as published for general information in notice 413 of Government Gazette No. 34385 on 22 June 2011 was developed in response to the constitutional requirement that all households should have access to basic services regardless of their income level, as well as the adoption of a free basic services in 2001.

This Policy aligns to existing relevant legislation, as in accordance to 74 (2)(c) of the Municipal Systems Act, 2000 (Act No. 32 of 2000) poor households must have access to at least basic services and section 9 (2) of NEMWA (Act 59 of 2008) which stipulates that each municipality must exercise its executive authority and perform its duty in relation to waste services, including waste collection, waste storage and waste disposal, by (c) ensuring access for all to such services.

Implementation plans include each municipality:

- Declaring specific localities as the recipients of basic refuse removal services.
- Maintaining “accurate and updated” registers of indigent people taking action in the event of malpractice.
- Integrating basic refuse removal into “basic indigent policies.”
- Designating the administration of the policy to the “most appropriate department.”

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- Raising awareness.

The policy includes:

- A “grid of responsibilities” for each sphere of government.
- A policy monitoring and evaluation plan.

According to the grid of responsibilities, national government will take responsibility for building capacity at provincial and municipal level, with provincial government determining municipal capacity and assisting district municipalities in “drawing up guidelines”.

### **National Domestic Waste Collection Standards**

The National Domestic Waste Collection Standards (notice 21 of Government Gazette 33935, 21 January 2011) published under the National Environmental Management: Waste Act (Act No. 59 of 2008) came into effect on Tuesday, 1 February 2011.

This standard aims to provide a uniform framework within which domestic waste should be collected in South Africa. This comes after a consultative process with provinces, municipalities and the general public in order to redresses the past imbalances in the provision of waste collection services. The standards aim to guide municipalities on how to provide acceptable, affordable and sustainable waste collection service to the human health and the environment.

The standards covers the levels of service, separation at source (between recyclable and non-recyclable materials), collection vehicles, receptacles, collection of waste in communal collection points, and most importantly the frequency of collection. Non-recyclable material such as perishable food waste must be collected at least once a week and recyclable material such as paper, plastic, glass etc. must be collected once every two weeks. Municipalities have a choice to provide different types of bins taking into consideration the type of vehicles they use; however, they must be rigid and durable to prevent spillage and leakage.

The development of the standards took into consideration the existing innovative practices at local government level across the country and seeks to build on what has already been achieved whilst emphasizing a need to separate recyclable and non-recyclable domestic waste and the protection of human health and the environment.

### **National Norms and Standards for Assessment of Waste for Landfill Disposal**

The National Norms and Standards for Assessment of Waste for Landfill Disposal (GR635, 23 Aug 2013) require the assessment of waste prior to disposal at landfill. The assessment of waste before disposal must include identification of the total and leachable concentrations of different chemicals. The concentration of chemicals determines the classification of the waste which in turn dictates the type of disposal site where the waste can be disposed of.

### **Waste Classification and Management Regulations**

The Waste Classification and Management Regulation (GR635, 23 Aug 2013) aims to address the management of different waste categories. The regulations stipulate the requirements for the transport storage and treatment of different waste types. A list of requirements for record keeping by waste generators is also included in the regulations with the aim of improving and standardising record keeping. The regulations also detail the process to be



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followed when motivating why a listed waste management activity does not require a waste management license.

### **National Norms and Standards for Disposal of Waste to Landfill**

The National Norms and Standards for Disposal of Waste to Landfill (GR636, 23 Aug 2013) specify minimum engineering design requirements for landfill sites. The design requirements vary depending on the type of waste to be disposed of at the site.

Landfill sites are designed to comply with one of four designs (Class A – Class D). The landfill design classes vary in the types of liner used. Class A landfill sites require multiple linings and leachate collection systems whereas a Class D landfill site is much simpler in design requiring only a 150 mm base preparation layer. Different classes of landfill are required for different types of waste.

### **National Norms and Standards for the Storage of Waste**

The National Norms and Standards for the Storage of Waste (GN 926, Nov 2013) specify the minimum requirements for waste storage facilities in the interest of protection of public health and the environment. The standards aim to ensure that waste storage facilities are managed according to best practise and to provide a minimum standard for the design and operation of new and existing waste storage facilities.

Hazardous waste storage facilities should be located in areas zoned as industrial, where waste storage facilities are located in residential areas a buffer of at least 100 m must be assigned to the site. General waste storage facilities must be located in an area that is easily accessible by the public.

The standards also specify design requirements for waste storage facilities, these include:

- Access roads
- Signage at the entrance of the facility in at least three official languages applicable to the areas the facility is located in. The sign must indicate:
  - The risk associated with entering the site.
  - Hour of operation.
  - Name, address and telephone number of the person responsible for the operation of the facility.

The standards also require that waste is separated at source into recyclables and non-recyclables.

A new condition for the management of waste storage facilities is the requirement for bi-annual internal audits and biennial external audits

### **National standards for the extraction, flaring or recovery of landfill gas**

The National standards for the extraction, flaring or recovery of landfill gas (GN 924 of 2013) aims to control the extraction, flaring and recovery of gas at landfills or recovery facilities to minimise harmful impacts to people and the surrounding environment. The standards require, in planning phase, that an assessment of environmental risks and impacts that are associated with the proposed activities is compiled, and that Environmental Management Plan is compiled to mitigate these risks. The standard contains a set of standard procedures for handling and maintaining of equipment for construction, operational and

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decommissioning phase. The standard also covers training, emergency response, monitoring and reporting, general requirements and transitional arrangements.

### **National standards for scrapping or recovery of motor vehicles**

The National standards for scrapping or recovery of motor vehicles (GN 925 of 2013) puts forth minimum requirements for the design, construction and upgrading of a motor scrapping facility. The design must consider: sensitive environments; drainage systems; storage and operational areas for off-loading, dismantling, liquid waste, shredding, dispatching parts and recyclables. Specific design requirements are set out for different operational areas. Minimum requirements are given for the operational phase including vehicle dismantling, solid waste management, and liquid waste management. Minimum requirements in the decommissioning phase focus on the compilation of a rehabilitation plan for the facility and disposal of contaminated wastes. The standard also covers training, emergency response, monitoring and reporting, general requirements and transitional arrangements.

### **National norms and standards for sorting, shredding, grinding, crushing, screening of waste**

The National norms and standards for sorting, shredding, grinding, crushing, screening of waste (GN 1093 of 2017) require all waste facilities (used for sorting, shredding, grinding, crushing, screening of waste) less than 100m<sup>2</sup> in size to register with the competent authority and provide details including the location, types of waste processed, and civil design drawings of the facility as set out in Section 4 of the standard.

The standards require all waste facilities (used for sorting, shredding, grinding, crushing, screening of waste) more than 100m<sup>2</sup> in size register with the competent authority as set out in Section 4 of the standard, as well as comply with requirements for the location, design, construction, access control and signage. Operational requirements in Section 8 of the standard address management of operational impacts such as control of hazardous substances, air emissions, discharging of wastewater, noise and odour emissions. The standard also covers training, emergency response, monitoring and reporting, general requirements, requirements during the decommissioning phase and transitional provisions.

## **Local Strategy and Policies**

### **Municipal By-laws**

Chapter 7 of the South African constitution: Section 156 provides that a municipality may make and administer by-laws for the effective administration of matters which it has the right to administer and that (section 151) it shall not be in conflict with national or provincial legislation.

This is further supported in the municipal systems act (Act 32 of 2000), Chapter 3: section 11 for a municipality to exercise executive authority within its boundaries to implement applicable by-laws. Section 75 of the MSA provides for the municipal council to adopt by-laws to give affect and enforce its tariff policy.

The Draft Municipal Sector Plan (Notice 182 of Government Gazette 34167) was published by the Minister for public comment on the 30 March 2011. Section 3.3.9.5 motivates that the enforcement of municipal waste by-laws is required to address ineffective collection systems through the enforcement of available resource-based controls which will improve the

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situation at community level. Enforcement should further be placed with a dedicated section with trained Environmental Management Inspectors in line with Chapter 7 of the National Environmental Management Act, 1998 (Act 107 of 1998)

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## Appendix B: Waste Management Tariffs

Source: George Municipal Tariffs for 2019/2020

## **REFUSE REMOVAL TARIFFS WITH EFFECT FROM 1 July 2019**

**SUBJECT TO VALUE ADDED TAX (VAT)**

### **1.1 Hotels, hostels, hospitals, old-age homes, boarding houses, furniture stores, restaurants, cafes, prison, post offices, police stations, bioscopes, chemists, bakeries, butcheries, fishmongers, banks, department stores, bottle stores, hardware shops, garages, airports and pubs / taverns (tariff code 2713, 2715, 2717)**

- R1 306,75 per month for the removal of two 240 litre containers three times per week.
- R653,38 per month for the removal of one additional 240 litre container three times per week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.2 Other and Rural businesses, guest houses and bed-and-breakfast concerns (tariff code 2703, 2713)**

- R340,03 per month for the removal of seven black refuse bags or one 240 litre container (per business) once a week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.3 Caravan Parks (tariff code 2707, 2713)**

- R16,82 per month for the removal of one 240 litre container **per site** once a week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.4 Industries (tariff code 2703, 2705, 2713)**

- R680,06 per month, per erf for the removal of two 240 litre containers once a week. If there is more than one industrial concern on a site, a tariff of one 240 litre container (R340,03 per month), per additional industrial concern will be charged.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.5 Residences, Housing Schemes, flats, semi-detached residences and second dwellings (tariff code 2701, 2713)**

- R207,71 per month, for the removal of seven black refuse bags or one 240 litre container (per business) once a week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.6 Schools / School Hostels (tariff code 2718, 2719, 2720)**

- R1 306,75 per month for the removal of two 240 litre containers three times per week.
- R653,38 per month for the removal of one additional 240 litre container three times per week.
- If bulk containers are used, a tariff based on the number of units OR the amount of R3 153,34 per month, whichever the highest, will be charged (three removals per week)

**Total charge: Less 10 % discount**

### **1.7 Churches and church halls (tariff code 2708, 2713)**

- R340,03 per month, for the removal of seven black refuse bags or one 240 litre container once a week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.8 Bulk (1700 litre) (tariff code 2713)**

- R3 153,34 per month for three removals per week (1 containers = 10 Units).

### **1.9 Holiday Chalets: (tariff code 2704, 2713)**

- R69,32 for the removal of one 240 litre **per chalet** container once a week.
- If bulk containers are used, a tariff based on the number of businesses or units OR the amount of R3 153,34 per month, whichever the highest, will be charged.

### **1.10 Uniondale / Haarlem (tariff code 2702, 2709)**

- Residences : R60,55 per month for the removal of seven refuse bags once a week.
- Businesses : R129,74 per month for the removal of refuse bags twice a week.

1.11 **Garden Route Botanical Garden (2703)**

- R340,03 for the removal of one 240 litre container once a week.

1.12 **BASIC AVAILABILITY CHARGE APPLICABLE TO ALL VACANT ERVEN**  
(tariff code 2711)

- R180,60 per month

2. **SUNDRY CHARGES**

2.1 **Additional removals (Per week)**

- R951,62 per bulk container

2.2 **Additional removals (daily) of 240 liter containers**

- R154,27 per removal per container

2.3 **Additional removals (daily) of black bags**

- R154,27 per removal

2.4 **Black bags : 25 micron strength**

- R..... per pack, containing 26 bags

2.5 **Dumping costs at refuse site:**

2.5.1 **Sawdust, crusher dust and wood shavings**

- R 401,27 per load less than 2,000kg (LDV)
- R1 995,59 per load in excess of 2,000kg (Truck load)

2.5.2 **Animal and fish waste (dumping)**

- R 401,27 per load less than 2,000kg (LDV)
- R1 995,59 per load in excess of 2,000kg (Truck load)

2.6 **Hiring of:**

- 240 liter refuse container (Wheelie bin) : R 92,75 per container per occasion
- Bulk container : R155,23 per container per occasion

2.7 **Cleaning and removing of refuse after functions:**

: R3 091,00 per occasion

# Appendix C: Newspaper Advertisement

42 GEORGE HERALD

Donderdag 17 Oktober 2019

## KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN GEORGE PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die George Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuursplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:

**George Bestuursplan (gedurende werksure)**  
George Munisipaliteit Kantore      Biblioteek  
Yorkstraat 71      Caledonstraat 2  
Tel: 044 801 9111      Tel: 044 801 9288

GLM webblad: [www.george.gov.za](http://www.george.gov.za)  
GIBB webblad: <http://projects.gibb.co.za>

### GARDEN ROUTE BESTUURSPLAN

#### Garden Route Distriksmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor      Yorkstraat 54, George (Tel: 044 803 1300)  
Knysna Sataliet Kantoor      Queenstraat 24A, Knysna (Tel: 044 382 7214)  
Mosselbaai Sataliet Kantoor      Hoek van Marlin- & Samsonstraat, Mosselbaai  
(Tel: 044 693 0006)  
Plettenbergbaai Sataliet Kantoor      Gibbsstraat 7, Plettenbergbaai  
(Tel: 044 501 1600)  
Oudtshoorn Sataliet Kantoor      Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)  
Riversdale Sataliet Kantoor      Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: <http://www.gardenroute.gov.za/documents/>  
GIBB webblad: <http://projects.gibb.co.za>

### KOMMENTAARPERIODE

Die bestuursplanne sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore  
Kontak Persoon:      Mev. Kate Flood  
Posadres:      Posbus 63703, Greenacres, Port Elizabeth  
Fisiese adres:      1st Vloer, St. George's Corner, Sentraal, Port Elizabeth  
Epos:      [wastesurvey@gibb.co.za](mailto:wastesurvey@gibb.co.za)  
Tel:      041 509 9150  
Fax:      041 363 9300

## DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND GEORGE LOCAL MUNICIPALITY

Garden Route District Municipality and George Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs covers the period 2020 - 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

### GEORGE IWMP

Hard copies of the GLM IWMP will be made available at the following locations (during office hours):  
George Municipal Building      Main Library  
71 York Street      2 Caledon Street  
Tel: 044 801 9111      Tel: 044 801 9288

GLM website: <https://www.george.gov.za>  
GIBB's website: <http://projects.gibb.co.za>

### GARDEN ROUTE IWMP

#### Garden Route Municipal Offices (during office hours)

Hard copies of the GRM IWMP will be made available at the following locations:  
GRM Head Office      54 York Street, George (Tel: 044 803 1300)  
Knysna Satellite Office      24A Queen Street, Knysna (Tel: 044 382 7214)  
Mosselbay Satellite Office      C/O Marlin & Samson Street, Mosselbay  
(Tel: 044 693 0006)  
Plettenberg Bay Satellite Office      7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)  
Oudtshoorn Satellite Office      15 Regent Street, Oudtshoorn (Tel: 044 272 2241)  
Riversdale Satellite Office      24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRM website: <http://www.gardenroute.gov.za/documents/>  
GIBB's website: <http://projects.gibb.co.za>

### Public review and commenting period

The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

### Submission of comments

Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office  
Mrs Kate Flood  
Postal address:      PO Box 63703, Greenacres, Port Elizabeth  
Physical address:      1st Floor, St. George's Corner, Central, Port Elizabeth  
Email:      [wastesurvey@gibb.co.za](mailto:wastesurvey@gibb.co.za)  
Tel:      041 509 9150  
Fax:      041 363 9300

**VACANCY**  
FOR  
**MARKETING/STOCK CONTROL STAFF**  
that can manage large stock flows accurately and who is proficient in Word, Excel and social media platforms like Facebook. Well organised and presentable.  
**Please contact Clive on 079 982 2343**

**LGS**  
**Laerskool George-Suid**  
BEHEERLIGGAAMBETREKKING  
GRONDSLAGFASE - 1 JANUARIE 2020  
LGS is 'n buitengewone Afrikaansmediumskool wat 'n positiewe verskil maak in die gemeenskap en in die lewens van sy leersders.  
**Vereistes**  
• Ondervinding en relevante kwalifikasies in Grondslagfase, grondige kennis van die KABV-kurrikulum en assesseringsbeleid;  
• Ervaring van die 9-blok onderrigmetode en implementering van intervensieprogramme;  
• Ten volle rekenaarvaardig en vertrouwd wees met gebruik van tegnologie in die klaskamer;  
• Onderrig van Xhosa as tweede addisionele taal word sterk aanbeveel;  
• Bereid wees om opleidingskursusse tydens naweke/vakansies by te woon;  
• Goeie mensieverhoudinge handhaaf en in 'n groep kan saamwerk;  
• Bewys lewer van inisiatiewe met gepaardgaande leierskap;  
• 'n Sterk betrokkenheid oor 'n breë spektrum van buitemuurse aktiwiteite word verlang (lys asb.)  
Bewys van relevante kwalifikasies, SACE-registrasie en ander dokumentasie moet die aansoek vergesel.  
Stuur u CV aan [tpretorius@lgs.co.za](mailto:tpretorius@lgs.co.za) teen 25 Oktober 2019.

**WE want you!**  
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**MTO | cape**  
**Position** : Buyer - MTO South Operations  
**Department** : Finance  
**Location** : George  
**Reporting to** : Financial Manager  
**POSITION OBJECTIVE**  
The Buyer South Operation will be responsible for the buying or co-ordinating the buying of all consumables, consignment stock and direct purchases (excluding raw material) and manage the consumable and consignment stock holding.  
**KEY ATTRIBUTES REQUIRED:**  
• Grade 12 with at least 5 years applicable experience in a purchasing function in a manufacturing environment, with a good understanding of machinery and equipment  
• Professional qualification in Procurement/Supply would be advantageous.  
• Basic knowledge of Code of Conduct and Financial Regulations.  
• Strong negotiation and communication skills  
• Planning, organizing and team working skills  
• High standard of accuracy and commercial awareness.  
• Ability to process very high volume within tight deadlines.  
• Ability to analyze and evaluate data to make recommendations and business decisions.  
**RESPONSIBILITIES:**  
• Product sourcing and negotiations.  
• Coordinate related purchasing functions with plantation and operational staff.  
• Manage consumable stores.  
• Assist in maintaining the Company's BBBEE information.  
• Ensure procedures and systems are maintained for the effective functioning of the purchasing process, consumable store and administrative functions.  
• Accurate and timeous processing of purchase transactions on NAV.  
**This appointment will be made strictly in accordance with the Company's Employment Equity Plan.**  
Please apply directly to Freya Swanepoel ([freya@mto.co.za](mailto:freya@mto.co.za)) with a brief summary of your qualifications and experience. Any enquiries regarding this position can also be directed to Freya.  
Applications should be received by close of business **25 October 2019**

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## Appendix D: Comments and Responses Report



The following comments were received from DEA&DP on 09 January 2020

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
Abbreviations/Acronyms/Definitions	The abbreviation reads as "DM (District Municipality)	Please replace DM with <b>GRDM</b> (Garden Route District Municipality): <b>Note: This is already part of the abbreviations</b>	Noted, Updated
	The abbreviation reads as "GRDM ( <b>District</b> Municipality) – spelling error	Please amend to read as "GRDM (Garden Route <b>District</b> Municipality):	Noted, Updated
	IPWIS "Integrated <b>Pollution</b> and Waste Information System" – incorrect word	Please replace with "IPWIS "Integrated <b>Pollutant</b> and Waste Information System"  <b>Please amend this throughout the entire document</b>	Noted, Updated
	IWMSA "Institute of Waste Management South Africa"  <b>Missing "word"</b>	Please replace with "Institute of Waste Management <b>of</b> South Africa".	Noted, Updated
<b>Page 1</b> , 1 Introduction, First paragraph, 2 <sup>nd</sup> sentence.	The sentence read as "The IWMP must be endorsed by the Department of Environmental Affairs and Development Planning (DEA&DP) and then incorporated into the municipal Integrated Development Plan (IDP).	The sentence should read as "The IWMP must be endorsed by the Department of Environmental Affairs and Development Planning (DEA&DP), <b>after approval by the George Municipal Council and thereafter</b> incorporated into the municipal Integrated Development Plan (IDP).	Noted, Updated
<b>Page 2</b> , 1 Introduction, 1.2 Contents of an IWMP, First paragraph, 1 <sup>st</sup> sentence.	The sentence read as "The Waste Act outlines the <b>requirements</b> for an IWMP".	The sentence should read as "The Waste Act outlines the <b>minimum</b> (at least) requirements for an IWMP".	Noted, Updated
<b>Page 2</b> , 1 Introduction, 1.2 Contents of an IWMP, Section 12(1)(b)(i)	<b>The sentence read as</b> "To give effect, in respect of waste management, to <b>chapter 3</b> of the National Environmental Management Act".	<b>The sentence should read as</b> "To give effect, in respect of waste management, to <b>Chapter 3</b> of the National Environmental Management Act".	Noted, Updated
<b>Page 2</b> , Introduction, 1.2 Contents of an IWMP, Section 12(1)(b)(v)	The National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) require a 25% reduction of garden waste to landfill by 2018 and a 50% diversion by 2023. There are more ambitious targets in the Western Cape. The Western Cape	George Municipality must ensure that projects are implemented within the municipality that allows for the diversion of Organic Waste. Organic Waste	Noted, <ul style="list-style-type: none"> <li>Refer to Table 68 – 3 Organic Waste Management – Needs – 4<sup>th</sup> bullet.</li> </ul>

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	PIWMP sets a target of a 50% diversion rate of organic waste by 2022 and a 100% diversion rate by 2027.	Diversion plans are also a requirement that must be met soon.	<ul style="list-style-type: none"> <li>Refer to Table 68 – 5.2 Gwaing (George) landfill site – Needs – 4th bullet.</li> <li>10 Implantation Plan – 5.2 The diversion of organic waste from landfill is increased – 5.2.5 Develop organic waste diversion strategies for both landfill sites</li> </ul>
	The Integrated Waste Management Plan does not mention the need for the annual submission of the Organic Waste Diversion Plan.	Suggest adding the production and submission of this document to the Directorate: Waste Management (D: WM) to <b>Goal 5: Increased waste minimisation and recycling. Additionally, adding it to Section 7.3: Waste Reporting in Table 56 of the document.</b>	Noted, See comment above
<b>Page 2</b> , 1 Introduction, 1.2 Contents of an IWMP, Section 12(1)(c)	<b>Please insert the following wording.</b> “Provincial measures to be implemented to support municipalities to five effect to the objectives of the NEMWA”.		Noted, Updated
<b>Page 2</b> , 1 Introduction, 1.2 Contents of an IWMP, Section 12(1)(d)	<b>Please insert the following wording.</b> <b>The IWMP must set-out the “Municipal priorities, objectives in respect of waste management in terms of NEMWA”.</b>	<b>Please insert the following wording.</b> <b>The IWMP must set-out the “Municipal priorities, objectives in respect of waste management in terms of NEMWA”.</b>	Noted, Updated
<b>Page 3</b> , 1. Introduction, 1.3 History of IWMPs in the George Local Municipality, 1 <sup>st</sup> paragraph, 1 <sup>st</sup> sentence	<p>The sentence read as “This is the third generation IWMP for the GLM and this plan <b>will cover the period 2020 – 2024</b>”.</p> <p>The development of the IWMP is currently out of sync with the GLM IDP cycles. The current GLM IDP (4th generation) covers the period 2017 – 2022.</p>	<b>Please note that the 5<sup>th</sup> Generation IDP will be from 2023-2027. The concern is if we want to ensure alignment of these plans than the current IWMP should be align to the IDPs timeframe to ensure alignment.</b>	The IWMP period is 2020 – 2025. An interim internal review is recommended in 2023 to increase the lifespan of the report to 2027. The review should focus on updating the situation analysis and assessing the performance of the municipality in terms of implementing projects up until 2023. Thereafter the IWMP and IDP timeframes will be aligned. As the status quo of waste management changes so rapidly it is not

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
			recommended that this IWMP has a lifespan of 7 years without an interim update.
<b>Page 3</b> , 1. Introduction, 1.4 Objectives of an IWMP, 1 <sup>st</sup> paragraph, 2 <sup>nd</sup> sentence	The sentence read as "The objective of this IWMP is to present a <b>vision of waste management in the GLM over the next 5 years.</b> "	It is important that the IWMP is developed as a long-term plan for approximately 30 years, with intermediate goals that must be achieved every 5 years. These objectives, can be revised as the plan is being implemented.	Longer term project have been added to the implementation plan.
<b>Page 4</b> , 1. Introduction, 1.4 Objectives of an Integrated Waste Management Plan, Figure 1. The waste hierarchy as per the NWMS (DEA,2011)		<b>The IWMP must ensure that it implements the waste management hierarchical methods in the overall management of its waste management services to move towards integrated waste management.</b>	Noted. Projects in the implementation plan are aligned with waste management hierarchy.
	The sentence read as "The goals of both the 2011 and draft 2018 NWMS will be <b>reviewed and incorporated into this IWMP.</b> "	The drafter must ensure that he/she clarify on how they will incorporate all recommendations made to the Draft IWMP's prior of after Council approval. Due dates must be specify for each report.	A copy of these comments in provided in appendix D. Reponses are provided to indicate how comments have been addressed in the plan.
<b>Page 6</b> , 1. Introduction, 1.6 Scope of the IWMP, Figure 4: <b>George Local Municipality</b> , Jurisdictional Area		<b>Please replace the map</b> as the content is not readable. Please refrain from highlighting the wording on the map.  <b>Please replace all unreadable maps within the IWMPs</b>	Noted, Updated
<b>Page 6</b> , 1. Introduction, 1.7 Context of Roles and Responsibilities, 1.7.1 National Government, 1 <sup>st</sup> Paragraph, 1 <sup>st</sup> sentence	<b>The sentence read as</b> "National government is tasked with establishing a national waste management strategy, including norms, standards and targets". including norms, standards and targets.	<b>The sentence should read as</b> "National government is tasked with establishing a <b>National Waste Management Strategy</b> , including norms, standards and targets". <b>Please amend this in all IWMPs</b>	Noted, Updated
<b>Page 7</b> , 1. Introduction, 1.7.4 Waste Management Officer, 1 <sup>st</sup> Paragraph, 1 <sup>st</sup> sentence.	<b>The sentence read as</b> "The Waste Act requires that all local municipalities <b>appoint</b> a waste management officer	<b>The sentence should read as</b> "The Waste Act requires that all local municipalities <b>designate</b> a waste management officer (WMO) from its	Noted, Updated

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	<p>(WMO) from its administration who is responsible for co-ordinating waste management in the Municipality”.</p> <p><b>Incorrect wording use</b></p>	<p>administration who is responsible for co-ordinating waste management in the Municipality”.</p> <p><b>Please amend this in all IWMPs</b></p>	
<p><b>Page 8</b>, 1. Introduction, 1.8 Alignment with National Strategic Plans, 1.8.1(a) National Waste Management Strategy (2011), 1<sup>st</sup> Paragraph, 3<sup>rd</sup> sentence.</p>	<p><b>The sentence read as</b> “The second generation NWMS is currently under review, however it is anticipated that this IWMP will be finalised before the <b>second</b> generation NWMS is finalised”.</p> <p>Please amend the wording from <b>second</b> to <b>third</b> generation NWMS in all the IWMPs</p>	<p>The drafter mentioned on page 8, section 1.8.1 (a) that “The second generation NWMS is currently under review, however it is <b>anticipated that this IWMP will be finalised before the third generation NWMS is finalised</b>”.</p> <p>It is therefore important that the drafter clarify when and how this amendment will be done. Will these amendments be affected after Council approve the plan as the finalization of the NWMS will possibly only happen in the 2020/21 financial year?</p>	<p>Noted, updated.</p>
<p><b>Page 11</b>, 1. Introduction, 1.8.4 Alignment with other Strategic plans, 1.8.4(b) Provincial Strategic Plan 2014-2019</p>	<p>The sentence read as “The plan identifies five Provincial Strategic Goals which can assist the province to overcome challenges and move towards realising the aforementioned provincial vision”.</p> <p><b>The five strategic goals are:</b></p> <ol style="list-style-type: none"> <li>1. Create opportunities for growth and jobs</li> <li>2. Improve education outcomes and opportunities for youth development</li> <li>3. Increase wellness, safety and tackle social ills</li> <li>4. Enable a resilient, sustainable, quality and inclusive living environment</li> <li>5. Embed good governance and integrated service delivery through partnerships and spatial alignment.</li> </ol> <p><b>Please note that these strategic goals are no longer applicable or relevant.</b></p>	<p>Please be informed that this Strategic Plan is coming to the end, and the drafter must include the content within the Draft “Provincial Strategic Plan 2019-2024” which identified 4 Vision-Inspired Priorities namely:</p> <ol style="list-style-type: none"> <li>1. Safe and Cohesive Communities</li> <li>2. Economy and Jobs</li> <li>3. Empowering People and</li> <li>4. Mobility, Spatial Transformation and Human Settlements.</li> </ol> <p><b>Please amend all IWMPs accordingly</b></p>	<p>Noted, a summary of the plan was added to the IWMP.</p>

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
Page 12, 1. Introduction, 1.8.4 Alignment with other Strategic plans, 1.8.4(c) Western Cape Provincial Spatial Development Framework	The sentence read as "The aim of the 2014 Provincial Spatial Development Framework (PSDF) <b>is the</b> bridge the gap between the National Development Plan and provincial strategies with the aim of improving service delivery".  <b>Incorrect wording, please amend</b>	The sentence should read as "The aim of the 2014 Provincial Spatial Development Framework (PSDF) <b>is to</b> bridge the gap between the National Development Plan and provincial strategies with the aim of improving service delivery".	Noted, Updated
Page 14, 1.8.7 Alignment with local Strategic plans, (a) George Local Municipality Fourth Generation IDP; 5, 2. Promote Good Governance & Human Capital, 1 <sup>st</sup> , 2 <sup>nd</sup> & 3 <sup>rd</sup> bullets		Please ensure that the content of this infrastructure plan address waste management infrastructure as identified in the Western Cape Government; DEA&DP Assessment of municipal integrated waste management infrastructure: Eden District (now Garden Route District Municipality)	Noted, Updated
Page 15, 2 Approach and Methodology, 2.2 Methodology, 2.2.2 Literature Review		It is <b>recommended that</b> the DEA&DP "Assessment of the municipal integrated waste Management infrastructure: Eden District, Final report, September 2016" be included in the literature review process as it focusses on waste management infrastructure within the district.  Please include this in all IWMPs within the GRDM.	Noted, Updated
Pages 17, 2 Approach & Methodology, 2.2 Methodology 2.2.6 Project Steering Committee, Table 9: Project Steering Committee Members	Table 9 indicated that Ms Adams is the designated Waste Manager of Kannaland Municipality	Ms Shirelene <b>Adams</b> is not designated as a Waste Manager so please obtain clarification of her designation	Noted, Updated
		<b>Designation</b> of August & Dean to be as follow: Deputy Director: Waste Management <b>Planning (Please insert "Planning" for both</b>	Noted, Updated
Page 17, 2 Approach & Methodology, 2.2 Methodology, 2.2.7 Presentations and	The IWMP indicated that workshops were conducted on the 13 June 2019, 26 & 27 August 2019	Please indicate the extent of the publicity that were undertaken to inform	Refer to pg 18 – 2.2.8 Public Participation Process

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
Workshops, <b>Table 10:</b> Workshops undertaken during the review of this IWMP		the citizens of the workshops to engage the communities.	Refer to Appendix C for proof of advert in the George Herald
<b>Page 18,</b> 2 Approach & Methodology, 2.2 Methodology, 2.2.8 Public Participation Process	<b>The sentence read as</b> "The GLM IWMP will be made available for review by the public for a period of <b>21les</b> days to obtain their comments".	<b>Please amend to read as</b> "The GLM IWMP will be made available for review by the public for a period of <b>21</b> days to obtain their comments".	Noted, Updated
	The content in this section is the same as in the 1 <sup>st</sup> revision. <b>There have been no public engagements to inform the situational analysis and hence the gap and needs identification.</b>	<b>Please update this section</b> in the final IWMP once public participation has been conducted <b>to include summarized public input.</b>	Noted, Updated
		Once public participation is undertaken, proof thereof (e.g. newsletters, public notices and attendance registers) must be included in the IWMP.	Refer to section 2.2.8 Public Participation Process Refer to Appendix C for proof of advert in the George Herald
<b>Page 19,</b> 3 Legal Requirements Overview, 3.1 South African Legislation, <b>Table 11:</b> Key South African waste legislation	This is well written and summarized.	Inclusion of the Minimum Requirement for Waste Disposal to Landfill of 1998 was a key piece of legislation which can be added to this table or in Appendix A.	A summary has been added to table 12 (note, due to the addition of a table earlier in the document some table numbers have changed)
<b>Page 20,</b> 3 Legal Requirements Overview, 3.2 International Legislation, <b>Table 12:</b> Key international legislation,	The sentence reads as "South Africa is a party to the <b>Montrel</b> Protocol, an international agreement which addresses the phase out of ozone-depleting substances. <b>Regulations to ...</b> ".  <b>Please note that the sentence is incomplete. Please amend this in all IWMPs. The spelling of Montrel to be corrected.</b>	<b>Please complete the sentence.</b>  <b>Correct spelling of "Montreal"</b>	Noted, Updated
<b>Page 21,</b> 4 Waste Management Performance Review, 4.1 Implementation of 2014 IWMP, <b>Table 15,</b> Implementation of 2014 IWMP, <b>1. Public Awareness and Education,</b> Section 1.1, Comments	The Municipality should add a section about major environmental days under "1. Public Awareness and Education" to further raise awareness of environmental issues. The days that should be considered are: 8. National Cleanliness Day, every January 9. International Earth Hour, every April	The use of these days can make awareness and environmental education initiatives easier to implement since there are establish programmed online.  <b>Please include these in every IWMP within the GRDM.</b>  <b>Put in Waste Awaren</b>	Noted, Updated  Refer to Table 15: 1 Public Awareness and Education – Comments  Refer to Table 68 Waste management gap and needs. 8 Waste Education and Awareness – Needs. Add to section 16.17.4.

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	<p>10. International Compost Awareness week, every May</p> <p>11. World Environment Day, every June</p> <p>12. World Oceans Day, every June</p> <p>13. International Coastal Clean-up Day, every September</p> <p>14. Clean-up and Recycle SA week, every September</p>		
	<p><b>The comments read as</b> "GLM do their own awareness training at crèches, schools and within the community. GLM have a team of 4 staff that <b>that</b> conduct awareness in various areas within George". <b>Remove the word "that"</b></p>	<p><b>The comments should read as</b> "GLM do their own awareness training at crèches, schools and within the community. GLM have a team of 4 staff <b>that</b> conduct awareness in various areas within George".</p>	Noted, Updated
<p><b>Page 21</b>, 4 Waste Management Performance Review, 4.1 Implementation of 2014 IWMP, <b>Table 15</b>, Implementation of 2014 IWMP targets, <b>3. Post Collection Recovery</b>, Section 3.1, <b>Comments</b></p>	<p><b>The comments read as</b> "The GLM are currently expanding the George transfer station to include a MRF, which will be completed in <b>August 2019</b>. The GLM are also in the process of developing a transfer station adjacent to the Uniondale landfill site.</p>	<p><b>Please indicate if this transfer station has been completed, if not, please indicate where in the process is the development.</b></p>	The MRF building has been constructed but the equipment has not yet been installed.
<p><b>Page 21</b>, 4 Waste Management Performance Review, 4.1 Implementation of 2014 IWMP, <b>Table 15</b>, Implementation of 2014 IWMP targets, <b>5. Engineered Waste Disposal Facilities</b>, Section 5.1, <b>Implementation</b></p>	<p><b>The sentence read as</b> "The disposal of non-recoverable waste will only be allowed at properly engineered waste disposal sites that <b>the</b> licensed by the relevant statutory authority and that are operated and audited in terms of the relevant permit conditions (more requirements under section 9).</p> <p>Incorrect word: <b>"the"</b> - please amend to read as "</p>	<p><b>The sentence read as</b> "The disposal of non-recoverable waste will only be allowed at properly engineered waste disposal sites that <b>is</b> licensed by the relevant statutory authority and that are operated and audited in terms of the relevant permit conditions (more requirements under section 9). <b>Please amend in all Draft IWMPs</b></p>	Noted, Updated
<p><b>Page 22</b>, 4 Waste Management Performance Review, <b>Table 74</b>: Implementation of 2014 IWMP targets, <b>7. Formalising, Controlling or Eliminating Informal Salvaging</b></p>	<p><b>The comments read as</b> "Informal salvagers and pickers have created informal living areas on the George and Uniondale landfill sites. The George landfill has approximately 50 people living on the site".</p>	<p>Since informal salvages possess entrepreneurial potential; divert large quantities of waste from landfills and especially because they continually return after law enforcement removal, consider having them work on a</p>	<p>To date GLM has only held meeting with informal salvagers.</p> <p>Project 5.1.6 has been added to the implementation plan. Incorporate</p>

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	<p>The GLM has tried on several occasions to remove informal salvagers and pickers from the sites, but with no avail. The landfill site in George has access control, with a wire fence surrounding the site. The Uniondale landfill site has no access control. The GLM has used law enforcement to help remove pickers from the George site, however pickers just return to site once law enforcement has left.</p> <p>The relocation of informal scavengers from the landfill site to the MRF is planned for the 2019/20 financial year.</p> <p>This project is still deemed as applicable to the GLM and will be carried forwards in the 2019 implementation plan."</p>	<p>separate section of the landfill to sort through waste for diversion.</p> <p>Also, if the relocation was set to happen in 2019/2020, then preliminary work would have been conducted with salvages. However, the report lacks information on preliminary work with informal salvages.</p> <p><b>This is a project with great potential and should be seriously considered for implementation in the 2020/2021 financial year.</b></p>	<p>existing informal reclaimers on the George landfill site into the new MRF.</p>
<p><b>Page 22, 4 Waste Management Performance Review, Table 75: Implementation status of 2014 IWMP targets, 7. Formalising, Controlling or Eliminating Informal Salvaging, Section 7.1</b></p>	<p><b>The sentence read as</b> "No informal salvaging was observed during the site visits in George Municipality. Since there is no evident problem, it can easily be prevented with the proper security measures. The Uniondale landfill poses a risk to allow access to informal salvagers. The new extension of this site will need to have better gate control and security".</p>	<p>In this section it is stated that there is little to no problem with informal salvage within George Municipality. Yet, within the associated comments it states "Informal salvagers and pickers have created informal living areas on the George and Uniondale landfill sites. The George landfill has approximately 50 people living on the site." And later "The GLM has tried on to remove informal salvagers and pickers from the sites, but with no avail."</p> <p>This incongruity needs to be addressed within 7.1 and 7.2</p>	<p>This section of the report is a review of the 2014 IWMP implementation plan. The text in the first column (titled of the table is taken verbatim from the 2014 IWMP implementation plan.</p> <p>The comment in this column (first column) is based on the consultants experience during their field work. The comment in the third column is the status quo witnessed during our fieldwork.</p> <p>The column heading has been changed to 'actions recommended in the 2014 IWMP' to avoid possible confusion. No further changes have been made to this section.</p>
<p><b>Page 23, 4. Waste Management Performance Review, Table 76: Implementation status of the 2014 IWMP targets, 8. Data Compilation, Comments, 2<sup>nd</sup> paragraph, 1<sup>st</sup> sentence</b></p>	<p><b>The comment read as</b> "GLM does not have any data on the amount of waste is produced by large companies and industries in the municipality, as these companies and industries make use of private waste removal. This is due to the GLM not having a</p>	<p><b>Its recommended</b> that the municipality consider requesting private waste removal companies to report on waste collected via the legislative requirements of the municipal or GRDM By-Laws.</p>	<p>Project 1.1.6 has been added to the implementation plan - Identify the major private waste management companies operating in the GLM area and request monthly records of waste managed in the GLM area. This information can be</p>



Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	<p>large enough waste removal fleet to manage the growing population."</p> <p><b>Does the municipality possess data from the private waste removal company that removes waste from these companies and industries?</b></p>	<p>Since organic waste is a "priority waste stream" for the Western Cape, consider having organic waste data separately collated, i.e. organics = food, garden, wood wastes, other. This can then also be reported on the IPWIS as such.</p>	<p>requested inline with the GRDM waste management by-laws.</p>
<p><b>Page 24</b>, Waste Management Performance Review, <b>Table 15</b>: Implementation status of the 2014 IWMP targets, <b>Section 9.1.5</b> Rehabilitation of existing footprint, <b>Comments</b></p>	<p>Throughout the document, the IWMP refers to the <b>decommissioning of the Uniondale landfill that must commence in 2019</b>, however, <b>the date of commencement has been extended to 29 September 2024</b> by the amended waste management licence Ref.: 19/2/5/4/D2/52/WL0140/19), dated 26 September 2019.</p>	<p><b>Please amend the final draft accordingly.</b></p>	<p>Noted, updated</p>
<p><b>Page 24</b>, Waste Management Performance Review, <b>Table 15</b>: Implementation status of the 2014 IWMP targets, <b>Section 10</b>. New Gwaing Composting &amp; Builders's Rubble Crushing Facility, <b>10.1 Design, Construct &amp; Operate (2014-2015)</b>, <b>Comments</b></p>	<p><b>The comment read as</b> "The GLM have designed a composting facility and are currently stockpiling builder's which will be used to construct the platform. The GLM plan to have a composting and builder's rubble crushing facility at one site. No chipping will be done on-site; the GLM will make use of the regional chipper when it comes to <b>the</b> site."</p> <p><b>It is recommended that more should be done wrt organic waste especially because the GLM waste profile states that 16.24% of the waste generated is organic waste, i.e. food, garden and wood wastes. (Table 28, page 37).</b></p> <p><b>Data from the characterization further backs this statement in that it indicates that organic waste amounts to 40% of waste make up. (Figure 15, page 38)</b></p>	<p>What is being planned at the facility? How long is the chipper allowed to stay at the facility? This implies that garden waste will be stockpiled, is provision for proper storage made? Also, what will happen with the chipped material?</p> <p>Also, take cognizance of the organic waste ban of the Western Cape, which requires organic waste interventions to be implemented to divert as much as possible. With the pressure of the 100% prohibition by 2027, perhaps a small chipper should be bought for use as quarterly chipping (page 87) prohibits the municipality from achieving targets.</p>	<p>The GLM is in the process of constructing a composting facility to compost green waste.</p> <p>The GLM will have access to the regional chipper. At this stage it is unknown how often the chipper will be based in the GLM or how long it will stay. It is up to the discretion of the appointed service provider to decide how the chipper will be managed.</p> <p>Target 5.2.4. requires a chipper to be provided at the George transfer station. Green waste can therefore be chipped at the transfer station before being transported to the adjacent composting site.</p>
<p><b>Page 26</b>, Waste Management Performance Review, 4.2 Progress towards Compliance with National Waste Management Strategy Goals, <b>Table 16</b>: National Waste Management Strategy Objectives, <b>Goal 3, Grow the</b></p>	<p>The municipality has omitted information on the amount of jobs it has created.</p> <ul style="list-style-type: none"> <li>69,000 new jobs created in the waste sector.</li> </ul>	<p>It is important to indicate what was this municipalities contribution towards the national target. <b>Please state or confirm the municipal specific contribution.</b></p> <p>0.4% to national</p>	<p>Amended as follows:</p> <p>GLM currently employ 112 people in the formal waste sector, with 346 vacancies within the GLM. An additional 20 people are employed in through a private service provider to manage the</p>

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
<b>contribution of the waste sector to the green economy</b>	<ul style="list-style-type: none"> <li>2,600 additional SMEs and cooperatives participating in waste service delivery and recycling.</li> </ul> <p>GLM response was that <b>"This is a national target. Nationally 29,833 people employed in the formal waste sector in 2012 (CSIR, 2012)",</b> and that the GLM currently employ <b>112 people in the formal waste sector</b>, with 346 vacancies within the GLM.</p>	It is recommended that the municipality keeps track of the amount of jobs created by themselves.	municipal separation at source programme. The GLM waste management employment contributes 0.19% of the national total. If all the vacancies were filled this would increase to 1% of the national target.
<b>Page 27, Waste Management Performance Review, 4.2 Progress towards Compliance with National Waste Management Strategy Goals, Table 17: Progress towards compliance with NWMS action plan, Goal 7, Provide measures to remediate contaminated land, Progress to compliance with targets</b>	<b>The progress read as</b> "The GLM has undertaken closure applications for all landfill sites".	<p>This goal refers to the assessment of 80% of contaminated sites as per the land register.</p> <p>The GLM mentioned that they obtained closure applications for all their sites, however no mentioning is made for regarding the remediation plans for the confirmed contaminated sites.</p>	Amended as follows: The GLM has undertaken closure applications for all landfill sites. The licenses of Uniondale and George (Gwaing) landfill sites require closure to commence in 2024.
<b>Page 27, Waste Management Performance Review, 4.2 Progress towards Compliance with National Waste Management Strategy Goals, Table 17: Progress towards compliance with NWMS action plan, Goal 2, Ensure the effective and efficient delivery of waste services, Progress to compliance with targets</b>	<p><b>The progress read as</b> "The GLM has not developed a strategy to manage household hazardous waste (HHW). DEA&amp;DP is, however in the process of developing a strategy."</p> <p>This sentence is not placed in the correct context, it is almost as if GLM wants to shift responsibilities.</p>	<p>DEA&amp;DP have conducted a HHW Status Quo and are currently compiling a HHW Management Guideline. Local municipalities are encouraged to use these reports in order to formulate HHW management strategies, specific to their municipal dynamics.</p> <p>It is the obligation of the GLM to develop a strategy to manage HHW, the sooner a strategy has been developed the faster it is managed and illegal dumping will be minimized.</p>	Noted, Updated
<b>Page 28, 4. Waste Management Performance Review, 4.2 Progress towards Compliance with the National Waste Management Strategy Goals, Table 17: Progress towards compliance with NWMS action plan, Goal 8: Establish</b>	<p>The target read as "Train and designate additional EMIs (DEFF, Provinces, Municipalities)".</p> <p>The GLM response was <b>"DEA&amp;DP to provide details"</b></p>	This should detail the EMIs trained and designated by the George Municipality.	There are four EMI's in the GLM. No enforcement actions have been undertaken.

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effective compliance with and enforcement of the Waste Act, Targets for 2016, 1 <sup>st</sup> Target		<p>The GLM must indicate how many EMI's were appointed, and the amount of enforcement actions carried out.</p> <p>The GLM must be aware which officials were nominated by the GLM to attend the training session. If they need to enquire, they must contact the DEA&amp;DP: Law Enforcement</p>	
<b>Page 29</b> , 5. Receiving Environment, 5.1 Biodiversity, <b>Figure 5: George LM Biodiversity Source 2017 ...</b> ,		<b>Please replace all maps throughout the entire IWMPs to ensure they readable.</b>	Noted, Updated
<b>Page 31</b> , 6. Situational Analysis, 6.1 Scope and Purpose of the Situation Analysis, <b>Figure 8:</b> IWMP planning phases – situation analysis		Please note that no reference is made to <b>Figure 8</b> (IWMP planning phases) in the summary or write-up.	Noted, Updated
<b>Page 33</b> , 6. Situational Analysis, 6.3 Demographics, <b>Table 20:</b> Household Profile		Please amend the columns within the table to ensure all wording fit properly.	Noted, Updated
<b>Page 34</b> , 6. Situational Analysis, 6.3 Demographics, <b>Figure 11:</b> Houses by type of dwelling	The figure refers to different dwelling, however no definition has been provided for "Traditional, Formal Dwelling and or Other"	<b>Please include the necessary definitions in the all IWMPs</b>	This data is sourced from Community Survey 2016, the report does not include definitions for traditional, formal dwelling and or other
<b>Page 38</b> , 6. Situational Analysis, 6.6 Waste Profile, <b>6.6.2 Hazardous, Business and Industrial Waste Profile, (a) Abattoir Waste, 1<sup>st</sup> paragraph, 4<sup>th</sup> sentence</b>	<b>The sentence read as</b> "No information has been received to date. The abattoirs were called and emailed on numerous occasions, but with no avail." "No abattoir waste is accepted at any of the landfill sites within GLM"	<p>This is a big gap in the municipality's information. <b>Although it is a positive that no abattoir waste is accepted at landfill, no detail is provided as to how this waste is disposed of.</b></p> <p>This information could be obtained from the <b>Department of Agriculture</b> as these facilities in the <b>Western Cape</b> must report as per legislative reporting requirements. <b>Please liaise with Dr. Graham Leask</b>, State Veterinarian, Elsenburg, Stellenbosch Tel: 021 808 5016 or Email: <a href="mailto:GrahamL@elsenburg.com">GrahamL@elsenburg.com</a></p>	<p>Noted.</p> <p>GIBB called Dr. Graham Leask, who indicated that he does not have any data on the amounts of waste produced.</p>

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		<b>Please note this comment is relevant to the missing data in Section 6.7.5 Hazardous Waste Survey Results with specific reference to Table 34 on Page 44.</b>	
	<b>With 2 abattoirs</b> in the area, and “no waste” being accepted at the landfill, <b>does the municipality have knowledge on where or how this waste type is managed?</b>		Abattoirs, would not get provide data to GIBB.
<b>Page 40</b> , 6 Situational Analysis, 6.6 Waste Profile, 6.7 Waste Generation, 2 <sup>nd</sup> Paragraph, 1 <sup>st</sup> bullet	The writer is referring to SAWIS records.  <i>This comment has been made in previous draft versions for multiple IWMP's and it is still filtering through. It is frustrating to read a document that has been copied and pasted and where previous comments are not being incorporated</i>	Only provincial and national system administrators have access to the IPWIS records.  <b>Please confirm the data source</b>	Noted, updated.
	<b>The paragraph reads:</b> <ul style="list-style-type: none"><li>“Not all of the households in the GLM receive a collection service, 2.3% of households use their own refuse dumps or other refuse service. This information has been sourced from the Community Survey 2016, which does not indicate what methods are used for when indicted other. The waste from these households would therefore not reach landfill sites.</li><li>As will most if not all municipalities in South Africa illegal dumping of waste occurs in the GLM. While cleanup campaigns are undertaken not all illegally dumped waste will enter a landfill site where it is recorded”</li></ul>	Please write information that is unique to a municipality. In this regard and where necessary, please refer to information such as clean-up campaigns, their cleansing schedules. For illegal dumping and un-serviced areas municipalities also work with their parks and recreation departments. Investigate and see where there are linkages where you can source actual and relevant data. Most municipalities do not have quantitative data, but you can use qualitative information to base your arguments and statements on.	The first bullet point which refer to 2.3% of households is specific to GLM. This statement is used in all IWMPs but the percentage of households is changed based on Community Survey 2016 data. Illegal dumping is an issue across all local municipalities and clean up campaigns are undertaken in all municipalities and this waste is then taken to landfill. Additional details on illegal dumping are provided in section 6.17.3.

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
	<i>Is this true for all the municipalities? I have read exactly the same statement for other municipal IWMP's</i>		
<b>Page 40</b> , 6 Situational Analysis, 6.7 Waste Generation, 6.7.3 SAWIS Hazardous Waste Records, <b>Table 32</b> : Summary of hazardous waste generation in GLM in 2008, <b>Tonnes generated</b>		<b>Please include the total hazardous waste tonnages generated.</b>	Noted, updated.
<b>Page 47</b> , 6 Situational Analysis, 6.9 Waste Information Systems, 6.9.2 Integrated <b>Pollution</b> and Waste Information System, <b>Table 37</b> : IPWIS waste disposal records for GLM	<b>The sentence read as “Integrated <b>Pollution</b> and Waste Information System”.</b>  Incorrect spelling “ <b>Pollution</b> ” should be “ <b>Pollutant</b> ”	<b>The sentence should read as “Integrated <b>Pollutant</b> and Waste Information System”.</b>	Noted, updated.
<b>Page 52</b> , 6 Situational Analysis, 6.13 Waste Recycling, <b>6.13.1 Separation at Source</b> , <b>1<sup>st</sup> Paragraph, 2<sup>nd</sup> sentence</b>	<b>The sentence read as “It must be noted that from June 2018 to December 2018, there was no blue bag collection services as the contact with the service <b>provide</b> had come to an end with the municipality”.</b>  <b>Spelling error – “provide” instead of “provider”</b>	<b>The sentence should read as “It must be noted that from June 2018 to December 2018, there was no blue bag collection services as the contact with the service <b>provider</b> had come to an end with the municipality”.</b>	Noted, updated.
<b>Page 54</b> , 6 Situational Analysis, 6.14 Management of Hazardous Waste, <b>Table 47</b> , Summary of hazardous waste management facilities in the GLM, <b>1<sup>st</sup> Paragraph, 1<sup>st</sup> Sentence</b>	<b>The sentence read as “Information gathered during interviews with waste management companies and waste generators suggests that hazardous waste generated in GLM is either disposed of in the <b>Visserhok landfill site (H:h) in the City of Cape Town</b> or Aloes landfill site (H:H) in Port Elizabeth”.</b>  Please obtain clarification as the hazardous site you refer to belongs to the City of Cape Town and not the privately-owned site of Enviroserve.	<b>Please obtain clarification</b> as the hazardous site you refer to belongs to the <b>City of Cape Town</b> and not the privately-owned site of <b>Enviroserve</b> .  <b>I don't think CoCT will allow the disposal of hazardous waste from companies outside its municipal jurisdiction.</b>  <b>This is a function of the private facility, owned by “Enviroserve”</b>	Noted – City of Cape Town own and operate the Visserhok Landfill. Numerous companies we spoke to across the GRDM indicated that waste is collected by a service provider and taken to Cape Town, Visserhok for disposal.
<b>Page 56</b> , 6 Situational Analysis, 6.6 Waste Profile, 6.15 Organic Waste Management, <b>6.15.2 Home Composting Pilot Programme</b> , <b>Table 49</b> , GLM home composting and worm farm diversion data,	This table still has no data in.	<b>Remove table if data is not available.</b>	The table has been removed and the following was added to the section: A total of 3.7 tonnes of organic waste was diverted from 45 households between April and July 2019. This is an

Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
			average of 20.5kg of organic waste per household per month.
<b>Page 56</b> , 6 Situational Analysis, 6.6 Waste Profile, 6.15 Organic Waste Management, <b>6.15.3 Legal Drivers for the Development of Composting Facilities.</b>	The GLM don't refer to the Organic Waste Diversion Plan that is required from the Directorate: Waste Management Licensing,	The GLM must develop and submit an <b>Organic Waste Diversion Plan</b> to the Directorate: Waste Management Licensing,	Noted, <ul style="list-style-type: none"> <li>Refer to Table 68 – 3 Organic Waste Management – Needs – 4<sup>th</sup> bullet.</li> <li>Refer to Table 68 – 5.2 Gwaing (George) landfill site – Needs – 4<sup>th</sup> bullet.</li> <li>10 Implantation Plan – 5.2 The diversion of organic waste from landfill is increased – 5.2.5 Develop organic waste diversion strategies for both landfill sites</li> </ul>
<b>Page 66</b> , 6 Situational Analysis, 6.6 Waste Profile, 6.15 Organic Waste Management, 6.17 Other Waste Management Services, <b>6.17.3 Litter Picking and Removal of Illegal Dumping,</b>	<b>The sentence read as "Illegal dumping of waste occurs in open spaces across the GLM", however the costs associated with cleanup of illegally dumped waste have not been indicated.</b>	Update IWMP to include cleanup costs of illegally dumped waste material.  Please indicate <b>the cost implications for the municipality wrt the removal of illegal dumping of waste.</b>	Noted, costs have been added to the IWMP, pg 66.
<b>Page 79</b> , Section 6.22.3 Waste Management Budget, <b>Table 63</b> : Summary of GLM income and expenditure	A detailed breakdown of income and expenditure is not provided.	The following must be provided:  Detailed breakdown of current operational and capital budget. - Detailed breakdown of current operational and capital expenditure (to include provision for closure and rehabilitation of waste disposal facilities) - Free basic services	No additional information related to the budget was provided by GLM.




Clause	Comment (State why the statement is not supported or what the problem is with the provision)	Suggestion (Suggested deletion/amendment/ addition)	GIBB's Responses to comments:
Page 91, Section 8.2 Gaps and needs identified in 2019, <b>Table 68:</b> Waste management gaps and needs, <b>11. Future Planning</b>	Future planning is essential in ensuring that a waste management service can meet the changing requirements of a municipality and comply with changing legislation and best practice guidelines.	<b>It is recommended that the drafter incorporate the WC Waste Infrastructure Report (2016 for the relevant municipalities.</b>	A summary of the 2016 infrastructure report has been added to section 1.8.5 of the IWMP.
Page 100, 10 Implementation Plan, <b>Table 72:</b> GLM Implementation Plan: Goal 1: Effective waste information management and reporting, <b>1.1 Accurate Reporting:</b> 1.1.1 - 1.1.5;	<b>This information is the same as KLM.</b> <b>Please refer to comments in KLM IWMP</b>	To get an idea of what the municipality's needs are in terms of waste information you can refer to previous data verification feedback	Noted, information has been updated to meet the needs of George Municipality.
Page 100, Page 100, 10 Implementation Plan, <b>Table 72:</b> GLM Implementation Plan: <b>Goal 1:</b> Effective waste information management and reporting, 1.2 The 2019 IWMP is regularly reviewed and the implementation status of the project is monitored, <b>1.2.1 Undertake annual performance reviews of this IWMP, and send reports to GRDM and DEADP</b>	<b>The plan is silent on how the implementation of the IWMP deliverables will be monitored.</b>	Annual reviews of the IWMP are to be incorporated in the municipality's Integrated Annual Report and sent to Local Government which DEA&DP will source. This is as per chapter 3(13)(3) of NEMWA.	Refer to section 11 of the IWMP.
Page 100, 11 Monitoring, 3 <sup>rd</sup> Paragraph, 1 <sup>st</sup> sentence	Page numbering incorrect, should be <b>page 105.</b>	<b>Please amend the page number to 105 instead of 100.</b>	Noted Updated
	<b>The sentence read as</b> "These annual reviews should culminate in a formal review report which should be made available to the GRDM and DEA&DP."	Annual reviews of the IWMP are to be incorporated in the municipality's Integrated Annual Report and sent to Local Government which DEA&DP will source. This is as per chapter 3(13)(3) of NEMWA.	Refer to section 11 of the IWMP.
<b>General</b>	Please include the prohibition/restriction of liquid waste in terms of the National Norms and Standards for disposal of waste to landfill, 2013		These restrictions have been added to table 14.




# Document Control and Disclaimer




FORM IP180\_B






<b>CLIENT</b>	:	Garden Route District Municipality	
<b>PROJECT NAME</b>	:	George Local Municipality Integrated Waste Management Plan	<b>PROJECT No.</b> : J38216
<b>TITLE OF DOCUMENT</b>	:	George Local Municipality Integrated Waste Management Plan: Situational Analysis	
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Approved By Project Executive		Reviewed By	Prepared By
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