




**WASTE MANAGEMENT PLAN FOR  
THE PROPOSED DEVELOPMENT OF A FILLING STATION AND  
ASSOCIATED INFRASTRUCTURE AT MOKGANYAKA VILLAGE WITHIN  
EPHRAIM MOGALE LOCAL MUNICIPALITY OF SEKHUKHUNE DISTRICT,  
LIMPOPO PROVINCE.**

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 C: 082 269 4524 | T: 015 547 0524

 [admin@greatwarthog.co.za](mailto:admin@greatwarthog.co.za)

 [www.greatwarthog.co.za](http://www.greatwarthog.co.za)

 No.114 Dzata Street

Vleifontein

0948





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	<b>NAMES</b>	<b>DATE</b>	<b>QUALIFICATION</b>	<b>SIGNATURE</b>
<b>Report Author</b>	Mr Londani Rambau	Mar-2021	Bsc Env & Bsc Hons ERM	
<b>Co-Author</b>	Ms Mosotho Maja	Mar-2021	Bsc Envsc	
<b>Approved by</b>	Mr Caiphus Mukwevho	Mar-2021	Bsc Env & Bsc Hons ERM	



ACRONYMS	
3R	Recycle, Re-use and Recover
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EO	Environmental Officer
ISO	International Standardisation Organisation
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act
WMP	Waste Management Plan



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## 1. BACKGROUND AND INTRODUCTION

### 1.1 Background

South Africa has come a long way with regards to the management of waste. Historically, waste was managed by various pieces of legislation that were governed by different government departments and which were often fragmented in nature resulting in gaps and poor waste management practices. The promulgation of the National Environmental Management: Waste Act (NEMWA) (Act No. 59 of 2008) on 1 July 2009 was a key milestone in consolidating waste legislation in a bid to have common goals and understanding of how the country's waste should be managed. The Waste Act adopts the waste management hierarchy approach to dealing with and addressing waste issues in the country, where the emphasis is on waste reduction, if not possible re-use, recycling and composting, recovery to create energy, with disposal as a last resort as illustrated in Figure 1-1.

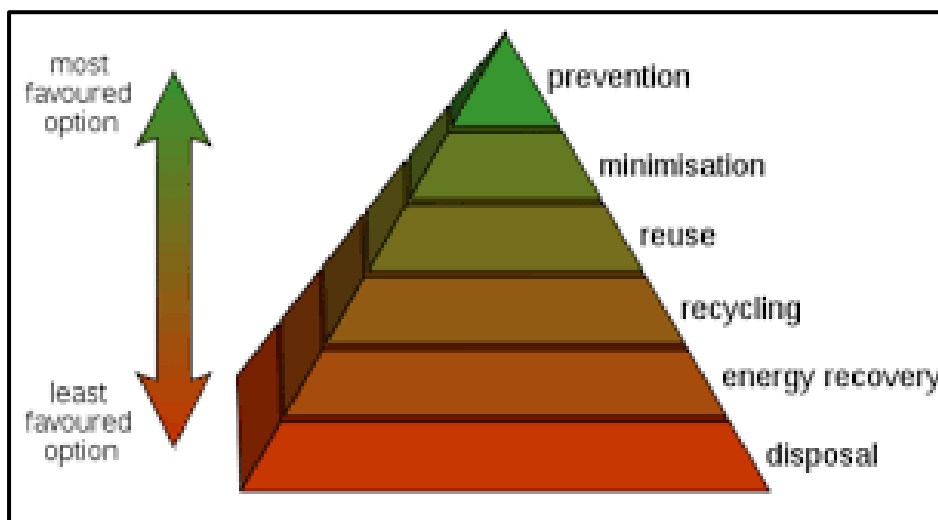


Figure 1-1: Waste Management Hierarchy

### 1.2 Introduction

**Great Warthog Geo-Environmental** has been appointed by **Mokganyaka Taxi Association** as Environmental Consultants to undertake an Environmental Impact Assessment (EIA) for the proposed development of a filling station at Mokganyaka Village. As part of EIA **Great Warthog Geo Environmental**, has identified the gap of waste management and the need for a waste management plan to help the developer to comply with the NEMWA and the Waste Regulations.



### 1.3 Project Location

The proposed development is located at Mokganyaka village, adjacent the T-junction from Leeuwfontein to Mokganyaka village on D4100 Road, under Ephraim Mogale Local Municipality, Sekhukhune District, Limpopo Province. The site information in Table 1-1 below.

Table 1-1: Project Location Description

SITE INFORMATION	
Site Area	Mokganyaka Village
Stand/Plot No	1059
Portion No	02
Farm Name	Mokganyaka 750 KS
Local Municipality	Ephraim Mogale Local Municipality
District Municipality	Sekhukhune District Municipality
Central Coordinates	24° 59' 17"S 29° 23' 25"E

## 2. PURPOSE OF THE WASTE MANAGEMENT PLAN

A Waste Management Plan (WMP) plays a key role in achieving sustainable waste management. The purpose of this plan is to ensure that effective procedures are implemented for the handling, storage, transportation and disposal of waste that is generated from the activities on site. The plan prescribes measures for the collection, temporary storage and safe disposal of the waste streams associated with the project and includes provisions for the recovery, re-use and recycling of waste.

This WMP has been compiled as part of the project Environmental Management Programme (EMPr) and includes waste stream information available at the time of compilation. Construction practices and operations must be measured and analysed in order to determine the efficacy of the plan and whether further revision of the plan is required. This plan should be further updated should further detail regarding waste quantities and categorisation become available, during the construction and/or operational stages.

## 3. POLICY STATEMENT

**Mokganyaka Taxi Association (Pty) Ltd** must ensure that all employees to adhere to a waste disposal system that creates a safe environment for all people on the Facility's premises.



#### 4. LEGAL FRAMEWORK

- ✚ The National Environmental Management Act (Act 107 of 1998).
- ✚ National Waste Management Strategy
- ✚ Hazardous Substance Act 1973 ( Act 15 of 1973)
- ✚ National Environmental Management Waste Act (NEMWA),59 of 2008
- ✚ Municipal Structures Act (Act 117 of 1998)
- ✚ Municipal Systems Act (Act 32 of 2000)
- ✚ Hazardous Substance Act 15 of 1992
- ✚ Occupational Health and Safety Act 1993 (Act 85 of 1993)
- ✚ ISO 14001:2015 Clause 4

Storage of waste must be undertaken in accordance with the National Norms and Standards for the Storage of Waste published in GN926.

#### 5. WASTE MANAGEMENT PRINCIPLES

An integrated approach to waste management on site is needed. Such an approach is illustrated in Figure 5-1 below.

- ✚ Reducing volumes of waste is a priority;
- ✚ If reduction is not feasible, the maximum amount of waste is to be recycled; and
- ✚ Waste that cannot be recycled is to be disposed of in the most environmentally responsible manner as possible.







### 5.1.2 Waste Collection, Handling, Storage and Disposal

- ✚ Each subcontractor must implement their own waste recycling system, i.e. separate bins for food waste, plastics, paper, wood, glass cardboard, metals, etc.
- ✚ Portable toilets must be monitored and maintained daily.
- ✚ Below ground storage of septic tanks, if installed, must withstand the external forces of the surrounding environment. The area above the tank must be demarcated to prevent any vehicles or heavy machinery from driving around the area.
- ✚ Waste collection bins and hazardous waste containers must be provided by the principal contractor and placed at various areas around site for the storage of organic, recyclable and hazardous waste.
- ✚ A dedicated waste area must be established on site for the storage of all waste streams, before removal from site.
- ✚ Signage/ colour coding must be used to differentiate disposal areas for the various waste streams (i.e. paper, cardboard, metals, food waste, glass etc.).
- ✚ Hazardous waste must be stored within a bonded area constructed according to SABS requirements. The volume of waste stored in the bunds must not exceed 110% of the bund capacity.
- ✚ The location of all temporary waste storage areas must aim to minimise the potential for impact on the surrounding environment, including prevention of contaminated runoff, seepage, and vermin control.
- ✚ Waste storage shall be in accordance with all Regulations and best-practice guidelines and under no circumstances may waste be burnt on site.
- ✚ Vegetation removed from the site must be chipped, removed from the site and disposed of at an appropriate waste disposal facility or used as mulch on site.
- ✚ A dedicated waste management team must be appointed by the principal contractors' EO, whom will be responsible for ensuring the continuous sorting of waste and maintenance of the area. The waste management team must be trained in all areas of waste management and monitored by the EO.
- ✚ All waste removed from site must be done so by a registered/ licensed subcontractor (**Rn Waste and Environ Consulting**), whom must supply information regarding how waste recycling/ disposal will be achieved. The registered subcontractor must provide waste manifests for all removals at least once a month.



### 5.1.3 Management of Waste Storage

- ✚ The position of all waste storage areas must be located away from water courses and ensure minimal degradation to the environment.
- ✚ The main waste storage area must have a suitable storm water system separating clean and dirty storm water.
- ✚ Waste storage areas must be under roof or the waste storage containers must be covered with tarpaulins (or similar material) to prevent the ingress of water.
- ✚ Collection bins placed around site and at subcontractors' camps must be maintained and emptied on a regular basis by the principal contractor.
- ✚ Waste must be stored in designated containers and not on the ground.
- ✚ Inspections and maintenance of bunds must be undertaken daily.
- ✚ Bunds must be inspected for leaks or cracks in the foundation and walls.
- ✚ It is assumed that any rainwater collected inside the bund is contaminated and must be removed and stored as hazardous waste, and not released into the environment. If any leaks occur in the bund, these must be removed immediately.

### 5.1.4 Waste Disposal

- ✚ Waste generated on site must be removed on a regular basis, as determined by the EO. This frequency may change during construction depending on waste volumes generated at different stages of the construction process.
- ✚ Waste must be removed by a suitably qualified contractor and disposed at an appropriately licensed landfill site.
- ✚ Proof of appropriate disposal must be provided by the contractor.

### 5.1.5 Record Keeping

The success of the waste management plan is determined by measuring criteria such as waste volumes, cost recovery from recycling, cost of disposal. Recorded data can indicate the effect of training and education, or the need for education.

It will provide trends and benchmarks for setting goals and standards. It will provide clear evidence of the success or otherwise of the plan.



- ✚ Documentation (waste manifest, certificate of issue or safe disposal) must be kept detailing the quantity, nature, and fate of any regulated waste for audit purposes.
- ✚ Waste management must form part of the monthly reporting requirements in terms of volumes generated, types, storage and final disposal.

#### 5.1.6 Training

Training and awareness regarding waste management shall be provided to all employees and contractors as part of the toolbox talks or on-site awareness sessions.

### 6. OPERATIONAL PHASE

It is expected that the operational phase will result in the production of general waste consisting mostly of cardboard, paper, plastic, tins, metals and a variety of synthetic compounds, hazardous wastes (grease, oils) will also be generated. All waste generated will be required to be temporarily stored at the facility in appropriate sealed containers prior to disposal at a permitted landfill site.

The following waste management principles apply during the operational phase:

- ✚ The Environmental and Site Manager must develop, implement and maintain a waste inventory reflecting all waste generated during operation for both general and hazardous waste streams.
- ✚ Adequate waste collection bins at site must be supplied. Separate bins should be provided for general and hazardous waste.
- ✚ Recyclable waste must be removed from the waste stream and stored separately.
- ✚ All waste must be stored in appropriate temporary storage containers (separated between different operational wastes, and contaminated or wet waste) at each operational area prior to being taken to the waste storage area for final sorting (if required). Waste storage shall be in accordance with all best-practice guidelines and under no circumstances may waste be burnt on site.
- ✚ Vegetation removed from the site must be chipped, removed from the site and disposed of at an appropriate waste disposal facility or used as mulch on site.
- ✚ Waste generated on site must be removed on a regular basis throughout the operational phase.
- ✚ Waste must be removed by a suitably qualified contractor and disposed at an appropriately licensed landfill site.
- ✚ Proof of appropriate disposal must be provided by the contractor.

## 6.1 Monitoring of Waste Management

Records must be kept of the volumes/ mass of the different waste streams that are collected from the site throughout the life of the project. The appointed waste contractor is to provide monthly reports to the operator containing the following information:

- ✚ Monthly volumes/ mass of the different waste streams collected;
- ✚ Monthly volumes/ mass of the waste that is disposed of at a landfill site;
- ✚ Monthly volumes/ mass of the waste that is recycled; and
- ✚ Data illustrating progress compared to previous months.

## 7. WASTE CLASSIFICATION APPROACH

### 7.1 General Waste

- ✚ General waste generated at the filling stations includes: hand towels, papers, Food remains and bottles.
- ✚ It is recommended that all general wastes must be disposed in the **GREEN** wheelie bin at all times.
- ✚ Bins must not overflow, they must be emptied when  $\frac{3}{4}$  full.



Figure 7-1: Green Wheelie Bin



## 7.2 Hazardous Waste

- ✚ Hazardous waste generated at the filling station includes: used oil, transmission and brake fluids, antifreeze, solvents, batteries, cleaning agents, paints and thinners, and abrasive grit blast.
- ✚ All hazardous waste must be disposed in the **BLACK** wheelie bin at all times.



Figure 7-2: Black Wheelie Bin

## 7.3 Recyclable Waste

- ✚ These includes: Used tires, Metal parts, Plastic bottles, and Cans.
- ✚ All recyclable waste must be disposed in the **BLUE** wheelie bin at all times
- ✚ It is advisable to get at least Three (3) recyclable wheelie bins, label each of them according to the recyclable waste that will be disposed in it.



Figure 7-3: Blue Wheelie Bin

## 8. CONCLUSION

This report will aid in monitoring the progress and relevance of the waste management procedures that are in place. This report must be adhered together with the Environmental Management Programme. Every contractor and sub contractor must adopt this report and ensure that waste management within the proposed is in compliance with the NEMWA and Waste Management Regulations.