

ENVIRONMENT PROCEDURE

Waste Management Plan

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Introduction

Sound waste management is better achieved when an Integrated Waste Management System is implemented. This is more evident on sites or in areas where different parties and aspects are involved. Integrated Waste Management is better achieved when system is underlined by sound environmental principles. These principles derived from section 2 of the National Environmental Management Act (Act 107 of 1998). The following principles apply to waste management.

A **Precautionary approach** will be followed in the sense that harm to health and the environment is prevented when waste is generated, treated and disposed off. The contractor as the generator of waste have to abide by the **Duty of Care** principle by ensuring that waste is disposed off in a manner that is environmentally sound and responsible. Management of waste must also follow an **Integrated and Holistic Approach** integrating health, safety and the environment in to the management approach and managing all aspects as a whole. By following the Best Practical Environmental Option one selects and implements the most sustainable management option in terms of the environment and the people surrounding it. The last principle that has to be considered in waste management is the **Polluter Pays** principle. This principle indicates that the costs for remediation and prevention of further pollution will fall on the responsible party.

Purpose of this document

A Waste Management Plan plays a key role in achieving sustainable waste management. This document is set to indicate the procedure that has to be followed during the handling, storage, transportation and disposal of waste that is generated from the activities on site.

Scope

The Waste Management Plan Procedure provides guidelines for waste management and applicable to employees, sub-contractors working on behalf of the Developer.

Waste Management Strategy

Waste will be managed according to the waste hierarchy as set in the National Environmental Management: Waste Act (Act 59 of 2008).The waste hierarchy dictates that the generation of waste should be avoided and minimised. If this is not possible the most desirable options will be reuse, recycle and recover waste. The last option will be disposal.

When waste is disposed it must be done in an environmentally safe manner and at a disposal site that is permitted and authorised to dispose of that waste. It is the generators duty to ensure that such disposal sites have sound and responsible management practices.

Waste will be segregated at source to facilitate re-use, recycling, and recovery. Segregation of waste will be made possible by means of waste containers that are allocated and marked for different waste streams that are identified within the content of this document.

Emergency Procedures will be followed in the unforeseen event of a spill or if waste burns on site.

All employees will receive training on waste management issues by means of induction training and toolbox talks that will take place once per week. Littering on site is prohibited. No person is allowed to discard of any litter on site except in bins provided for that purpose.

Waste generation

Daily operational activities will generate general waste, metal waste as well as hazardous waste on monthly basis. Figures of these wastes are not yet known and will vary within project cycles as there will be times of acceleration in activity and times decreased activity.

Sources of waste will include: empty containers, office paper, plastic water bottles, and food waste canteens, printer cartridges, and used vehicle oil from workshops

Legal Requirements

The following sources of South African Law have been identified and will form the basis of the (WMP). Developer will comply with all environmental policies or Acts that apply to the Project, and the Project Manager should familiarize himself with, and have access to, the following pieces of legislation as a minimum:

- Constitution of South Africa (Act No. 108 of 1996);
- **National Environmental Management Act (Act 107 of 1998);**
- **National Environmental: Waste Act (Act No. 59 of 2008);**
- **Hazardous Substances Act (Act No. 15 of 1973);**
- **Impacts and Aspects Register;**
- **Environmental Management Plan (EMPr)**
- **Environmental Authorisation**
- Minimum Requirements for the Disposal of Waste by Landfill, Edition 3 (2005); and
- Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, Edition 3 (2005).

Definations and Abbreviations

a. Defination of waste relevant to operations

Environment Surroundings within which human exists and that are made up of:

- The land, water and atmosphere of the earth;
- Micro- organisms, plant and animal life;

- Any part or combination of the above and the interrelationships among and between them; and
- The physical, chemical, aesthetic and cultural properties and conditions of foregoing that influence human health and well-being. (NEMA Act, Act No. 107 of 1998).

Waste	means any substance, whether or not that substance can be reduced, re-used, recycled or recovered: <ul style="list-style-type: none"> a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of; b) which the generator has no further use of for the purposes of production; c) that must be treated or disposed of; or d) that is identified as a waste by the minister, by notice in the Gazette, but: <ul style="list-style-type: none"> i) a by-product is not considered waste; and ii) any portion of waste, once re-used, recycled and recovered, ceases waste.
Hazardous	Means a source of or exposure to danger (NEMA, 1998)
Recovery	Means the controlled extraction of a material or the retrieval of energy from waste to produce a product
Recycle	a process where waste is reclaimed for further use, which process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.
Re-use	to utilise articles from the waste stream again for a similar or different purpose without changing the form or properties of the articles
Container	means a disposable or re-usable vessel in which waste is placed for the purposes of storing, accumulating, handling, transporting, treating or disposing of that waste, and includes bins, bin –liners and skips
Disposal	Means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into air or any land.

Hazardous Waste

Waste that has the potential to cause a negative threat/impact to humans and/or the environment. It includes, but is not limited to, batteries, neon lights, fluorescent lights, printer cartridges, oil, paint, paint containers, oil filters, IT equipment etc.

General waste Waste which does not pose an immediate hazard or threat to health or to the environment' and includes the following waste flows: domestic waste, construction and demolition waste, business waste, insert waste.

EMP Environmental Management Plan. A detailed plan of action prepared to ensure that recommendations for preventing the negative environmental Impacts and where possible improving the environment are implemented during the life cycle of the project. (Project EMP).

b. Abbreviations

ECO Environmental Control Officer
EMP Environmental Management Plan
WMP Waste Management Plan
NEM: WA (Act 59 of 2009) National Environmental Management: Waste
DWA Department of Water Affairs
I&AP Interested and Affected Parties/Person

Responsibilities

- i) The Developer Environmental Officer shall be responsible for compliance with this waste management plan and ensure that all waste generated during construction activities on site is managed in safely and in accordance with legislations..
- ii) Developer EO shall provide the Team HSE and ECO with a written monthly waste report, detailing both compliance with the environmental Specifications as well as Environmental Performance;
- iii) It is the responsibility of all employees to segregate at source and store waste in the appropriate bins and in designated areas and to ensure that waste is kept to a minimum and environment is not polluted and contaminated.

General waste

a. Management of general waste

General waste will be segregated at source and place in the correct waste bins designated for each waste stream. General waste will not be stored on site for longer than 30 days and will be collected and emptied on a weekly basis by waste management company for disposal.

b. General waste stream

This is waste that does not pose an immediate threat to health or the environment. Most of these waste streams will be designated to be re-used, recycle and recovered.

i) Compactable General waste

This is any waste type that are small in size and that can be compacted

- General waste: waste that does not fall within the defined waste streams that will be disposed of in landfill. Domestic waste will be discarded in waste bins that are labelled "General Waste". Source of this waste will be kitchen, beverage cans, plastic waste and cartons.
- Waste papers: These are waste paper boxes that are unwanted. This waste will be discarded in waste bins labelled "Waste paper, Boxes"

ii) Un-compactable general waste

This is waste that is large in size that cannot be disposed of in normal waste bins or skip. Most of the waste types in this category can be recycled or re-used within the operations on a construction site or can be recycled in to the local community.

- Scrap metals: all metal or steel that is discarded or termed off-cuts will form the bulk of the scrap metal waste stream. These metals will be placed in waste bins labelled "Metal Waste"

c. Recycling Procedure

All scrap/metal waste generated will be collected and sent to the recycling facilities for recycling purpose. Used oil shall be collected by recycling companies where applicable.

Hazardous waste

a. Management of hazardous waste

Hazardous waste will be stored in a safe and responsible manner. Hazardous waste will not be stored on site for more than 30 days. This hazardous waste will be placed in a waste bin labelled 'Hazardous Waste' and will be collected and disposed of as Hazardous waste at approved landfill site. All hazardous waste types will be identifiable at all times. Incompatible waste type will be stored separately.

b. Hazardous waste types

- Hydrocarbon contaminated materials: such as soil due to spills and oil leaks;
- Used equipments/vehicles oils: from vehicles being serviced at workshop;
- Printing cartridges; and
- Chemical waste (such as used oil, paint, insecticide).

Waste bins

a. Waste bins conditions

Developer will ensure that the waste bins used are suitable for the waste that is to be stored within. The waste bins will be in a good condition, not be corroded and may not permit leachate or be otherwise unfit for the safe storage of waste designated to that container. Bins will have mechanisms in place to prevent waste from becoming wind blow litter and it must be scavenger proof. Hazardous waste bins will be sealed to ensure that no spillages can occur. These bins will be also be labelled so as to identify type of waste, date of storage commencement and generator details.

b. Inspections of waste bins

Waste bins will be inspected on a daily basis to ensure that they remain in an acceptable condition for safe storage of waste. These inspections will be documented and records will be kept for future references.

c. Placement of waste bins

The bins will be placed in centralised locations in order to ensure that it is accessible to all employees. The waste bins will be emptied and the waste will be taken to the relevant designated areas (the central storage area or the waste transfer station) awaiting collection by waste removal companies.

Waste storage areas and collection points

a. Specifications of waste storage areas

Waste will be managed in such a way as to prevent it from becoming a nuisance such as odour and to prevent the breeding of vermin and vectors. Management practices will ensure that no environmental harm is caused. All waste area will be clearly marked with signs to specify that waste is being stored in that area and to indicate what the nature of waste is. Storage areas will be fenced with access control to prevent unauthorised access.

i) General waste storage areas

Storage areas for general waste will be kept clean and neat, with a high level of housekeeping.

ii) Hazardous waste storage areas

Storage areas for hazardous waste will be having a roof to divert rain water from waste containers and must be fully bunded (110%) with pollution collection measurements in place in case of any spills or leakages. A high level of house keeping must be maintained in and around the storage. A file with (MSDS) documents and waste acceptance forms must be kept on site.

b. Requirements of collection points

Points from which waste is collected to be taken to the storage areas or the transfer stations will be clearly accessible for vehicles.

d. Waste removal schedule

Waste bins will be emptied on a regular basis. This will either be daily, weekly or when bins have reached their capacity. A call for service will be issued to the waste removal company when bins are full.

General rules

a. Records

All waste removal records will be maintained on site where it is accessible to all interested and affected parties. These records will include an updated list of the waste streams and volumes generated and disposed of, all collection certificates and disposal certificate and all material recycled or re-used and the volume thereof.

b. Review

Developer Project Manager and Developer Environmental Officer will review this Waste Management Plan on a monthly basis.

c. Reporting

Waste disposal figures will be reported on a monthly basis to the HSE and ECO.

Conclusion

Compliance and implementation of this procedure will ensure effective management of waste on site. Developer and their sub-contractors will comply with the requirements of the EMP, the project RoD and other legislative requirements that may have an impact on waste management in general.

References

- (Emergency preparedness and Response Plan
- ISO 14001:2004;