



GA Environment

**BASIC ASSESSMENT AND WASTE MANAGEMENT LICENCE
APPLICATION PROCESS FOR THE PROPOSED DECOMMISSIONING
OF MORGENZON ROAD LANDFILL; LEKWA LOCAL MUNICIPALITY,
MPUMALANGA PROVINCE**

DRAFT BASIC ASSESSMENT REPORT

NOVEMBER 2015

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DRAFT BASIC ASSESSMENT REPORT (DBAR)

For

**BASIC ASSESSMENT AND A WASTE LICENCE APPLICATION PROCESS FOR THE
PROPOSED DECOMMISSIONING OF MORGENZON ROAD LANDFILL; LEKWA
LOCAL MUNICIPALITY, MPUMALANGA**

Prepared for:

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Submitted to:

**Mpumalanga Department of Agriculture, Rural Development, Land and Environmental
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PROJECT INFORMATION

Title: Basic Assessment and a Waste Licence Application Process for the Proposed Decommissioning of Morgenzon Road Landfill; Lekwa Local Municipality, Mpumalanga

Competent Authority: Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs

Reference No.: To be added once assigned

Applicant: Department of Environmental Affairs

Environmental Consultants: GA Environment (Pty) Ltd

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Reviewer: Andrew Woghiren *MSc. Pr.Sc.Nat*

Date: 04 December 2015

Document History and Quality Control

Revision	Revision Date	Revision Comments	Originator	Reviewed By
1	29 October 2015	Draft for public review	Hlengiwe Thusi	Ntsebo Mofoka
2	12 November 2015	Draft for public review	Hlengiwe Thusi	Ntsebo Mofoka

SIGNING OF THE ORIGINAL DOCUMENT

Original	Prepared by	Reviewed by	Approved by
Date: 13 November 2015	Name: Hlengiwe Thusi	Name: Ntsebo Mofoka	Name: Nkhensani Khandhela
Version 0	Signature:	Signature:	Signature:

Distribution List

Name	Designation	Organisation

BASIC ASSESSMENT REPORT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

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14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES	NO
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 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

1. Introduction and Background

The Department of Environmental Affairs (DEA) is assisting the Lekwa Local Municipality to licence various waste disposal facilities within its jurisdiction. The Morgenzon Road landfill is one of the landfill sites that will require a Closure Licence from the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs. DEA has thus appointed GA Environment (Pty) Ltd as independent Environmental Consultants, to undertake the Basic Assessment (BA) process as part of the Waste Management Licence Processes.

The Lekwa Local Municipality proposes to close and formally decommission the existing Morgenzon Road landfill site located at Morgenzon Road. The Morgenzon Road landfill has been in operation for a while and collects domestic refuse from Morgenzon Road and other surrounding areas. The landfill was designed and commissioned prior to the establishment of the Minimum Requirements for Waste Disposal by Landfill (DWAF, 1998 2nd Edition) and the promulgation of the National Environmental Management Waste Act (NEMWA hereafter), 2008 (Act No. 59 of 2008). It is part of The Lekwa Municipality Integrated Development Plan's (IDP) Key Performance Area to provide basic services in accordance with the Municipal Systems Act, 2000. Solid waste removal has been included in the Municipality's Key Performance Indicators. Furthermore, in the IDP's programme and projects for 2015/2016, under the Municipality's waste management programme, the Municipality has set aside a budget for the implementation and undertaking of the Environmental Impact Assessment for development of a new landfill disposal cell at Morgenzon Road landfill Site. However it is anticipated that the municipality will consider other waste disposal options as the Morgenzon Road landfill has reached its capacity for disposal. It is for this reason that the municipality is applying for the closure of this site.

The Morgenzon Road landfill is located in the town of Morgenzon Road, which falls within the boundaries of Lekwa Local Municipality, Mpumalanga Province (refer to the Locality Map on **Figure 1, Appendices A and B for the overview of the site**). The Morgenzon Road landfill is located on Portion 3 of Farm Morgenzon 466S in the north-eastern outskirts of the town. The R39 serves as direct access and is located on the south of the landfill site, about 25 m from site. The site is situated in between two unnamed tributaries of the Osspruit. The Osspruit lies approximately 240 m to the north of the site. The site coordinates are 26°43'42.08"**S** and 29°37'20.68"**E**.

2. Solid waste removal services in Morgenzon

The Lekwa Local Municipality is responsible for the provision of solid waste removal services in Morgenzon. Out of a total of 374 households surveyed by Stats SA in 2011, 365 (97.6%) households had their waste removed by the local authority at least once a week. This and other additional information is indicated in **Table 1**. It is assumed that the waste that the local authority removed from the

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community at the time of the undertaking of the 2011 survey was disposed of at the Morgenzon landfill. It must be noted that statistics on current waste disposal options were not available at the time of the compilation of this report in November 2015.

Table 1: Status of waste removal in Morgenzon (2011)

Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
365	0	3	3	0	3



Figure 1: Locality Map of the Morgenzon Road Landfill Site

Although the Morgenzon Road landfill is currently operational and receiving general waste, mainly domestic waste, the Lekwa Local Municipality is applying for a Waste Management Licence in order to formally close the facility, and to ensure that the decommissioned site is legally compliant with the NEM: WA 2008, and other key legislation. The Decommissioning (closure) Licence will be issued by the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs. It must be noted that the Morgenzon Road landfill site has reached its landfill air space capacity and waste was noted to have been disposed extensively outside the demarcated waste boundaries. The proposed closure of the landfill serves to address ongoing problems and other environmental nuisances that the Morgenzon Road landfill has created over the years.

The Municipality is currently investigating other viable waste disposal options .e.g. waste transfer stations, drop off facilities, construction of a regional waste site etc in order to cater for the general

waste that will be generated in future within the town. The scope of this Basic Assessment Report (BAR) is limited to the closure of the Morgenzon Road landfill and will not include the proposed construction of the waste transfer stations or drop off facilities and other waste disposal options.

The proposed activities associated with the decommissioning (closure) of the Morgenzon Road landfill will also include the construction of a new boundary fence to the size of the existing landfill and the active site where waste is currently being dumped. The closure and rehabilitation of the landfill will also be done in accordance with DWAF Minimum Requirements for rehabilitation, closure and end-use for landfill.

The Decommissioning of the landfill will ensure that Lekwa Local Municipality adhere to the requirements of the NEM: WA and that the existing landfill site is rehabilitated as per the Environmental requirements. The rehabilitation of the landfill will ensure that the final condition of the site is environmentally acceptable and that there will be no adverse long term effects on the surrounding areas.

2.2. Site Status Quo

The Morgenzon Road landfill is about 1,261 hectares in size and is owned and operated by the Lekwa Local Municipality. According to DWAF Minimum Requirements for Waste Disposal by Landfill (1998), landfill sites are classified according to the type and volume (volume = maximum amount of waste handled/treated/stored per day for which the facility was designed) of waste handled/treated/stored at the specific facility per day. Unfortunately there are no site records indicating the quantities of waste that the Morgenzon Road landfill may have received over the period it was used. There are also no records available for amount of waste that has been reclaimed from the site. However, based on the fact that the waste site is used solely for disposal of domestic waste from the Morgenzon Road town and farms, it is assumed that the site can be classified as a Class C landfill GCB (General Medium) as per DWAF landfill classification criteria. The site climatic water balance classification is unknown as no calculation data is available from the Municipality.

Although the Morgenzon Road landfill site is fenced off, the fence surrounding the site was noted to have been compromised in several places allowing human and animal access to the site. There is currently no designated cells for the dumping of waste, waste was noted to have been dumped within and outside the boundary of the fenced site. Incidences of windblown litter was noted to have been scattered outside the landfill site boundaries for up to 1km. Burning of waste was noted within the fenced off sites and there is no evidence of waste covering and compaction. It is uncertain what amount of waste is reclaimed (informally) from the site as waste reclaimers were noted on site during the site visit. There is no evidence of either groundwater or gas monitoring noted in the vicinity of the landfill site. Please refer to **Figures 1** and **2** below and **Appendix B** (photo plates) for the overview of the site.



Figure 1: The Morgenzon Road landfill viewed from the west. Arrow show Morgenzon Road residential area in the background



Figure 2: Evidence of windblown litter causing a visual nuisance across the R39. Arrow shows the landfill litter.

One of the Key Performance Areas (KPA 2) of the Lekwa Municipality includes the construction and maintenance of waste infrastructure. KPA 3 for the municipality includes the provision of sustainable, reliable and affordable waste disposal to all residents. The closure of the Morgenzon Road landfill is thus in line with the Municipality future plans. The Licensing of unlicensed landfill sites (including the Morgenzon Road landfill) has been identified in the Lekwa IDP 2015/2016.

2.3. Design requirements and End use plan

The scope of work is limited to the design of a final capping layer, adequate surface drainage design and top soiling. It is anticipated that the end-use for the Morgenzon Road landfill site will be an open space and the Lekwa Municipality will in future investigate potential uses that can be safe and suitable.

2.4. Closure and Rehabilitation Activities

The following activities are planned during the implementation of the rehabilitation and landfill closure design: The closure, rehabilitation and post-closure monitoring of the historical disposal site will be done in accordance with the Minimum Requirements for Waste Disposal by Landfill (DWAF, 1998). The proposed closure and rehabilitation is detailed in the Closure Report (**Appendix G2**). In summary the closure/ rehabilitation will entail:

- Localized “re-capping” of selected areas where soil has eroded to expose the underlying waste body;
- Localized re-landscaping / reshaping of selected areas on site, where ponding is evident or where soil has been eroded to exposure the underlying waste body.
- Implementation of erosion protection measures;
- Removal of illegally dumped waste and disposal at a licensed facility;
- Possible implementation of measures to restrict public access and prevent further illegal dumping;
- Control of alien vegetation;
- Establishment of monitoring programme (to monitor capping integrity, erosion, subsidence, drainage, storm water management, ponding, fire and security)

In brief, the envisaged activities, depending on the site conditions, will generally include the compacting, backfilling with top soil and gravel, construction of storm water diversion channel where applicable.

3. Applicable Listed Activities applied for:

According to the NEMA EIA Regulations (2014), **Activity 12: (xii)**, “the development of infrastructure or structures with a physical footprint of 100 square metres or more, where such development occurs – (a) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the watercourse” the proposed development will require an Environmental Authorisation from the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs.

According to the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) as amended, the decommissioning of the Morgenzon Road landfill also requires a Decommissioning Waste Management License (as per Category A of Government Notice 921 of November 2013, Activity 14). The following Category A Waste Management listed activity is thus applicable.

Category A - Activity 14: The decommissioning of a facility for a waste management activity listed in Category A or B of this schedule.

This activities have been assessed as part of this Basic Assessment process.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 921 of 29 November 2015	Description of the project
Category A: Activity 14: The decommissioning of a facility for a waste management activity listed in Category A or B of this schedule	The Morgenzon Road landfill is applying for a decommissioning licence as the landfill site will cease operations due to air space constraints

According to the NEMA EIA Regulations (2014), Activity 12 (xii), “the proposed development will require an Environmental Authorisation from the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs.

Government Notice R983 Activity No.	Describe the relevant Basic Assessment Activity in writing as per Listing Notice 1 (GN No. R983)	Describe the portion of the development as per the project description that relates to the applicable listed activity
Activity 12 (xii)	The development of infrastructure or structures with a physical footprint of 100 square metres or more, where such development occurs – (a) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the watercourse”	It is likely that these drainage channels located to the west of the landfill may be impacted by the closure and rehabilitation activities such as the construction of boundary fences and storm water channels.

Please note:

Only those activities listed above shall be considered for authorisation. The onus is on the applicant to ensure that all applicable listed activities are included in the application. Environmental Authorisation must be obtained prior to commencement with each applicable listed activity. If a specific listed activity is not included in an Environmental Authorisation, an application for amendment or a new application for Environmental Authorisation will have to be submitted.

This activities have been assessed as part of this Basic Assessment process.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives *(N/A as Design alternatives have been considered for the project)*

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
	26°43'42.08"S	29°37'20.68"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

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In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives *(N/A as Design alternatives have not been considered for the project)*

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives *(N/A as Design alternatives have been considered for the project)*

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

d) Design alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Proposed and preferred alternative: Closure and Rehabilitation of Landfill

The proposed closure and rehabilitation of the unlicensed landfill would ensure that the site is environmentally and publicly acceptable and that it complies with the Minimum Requirements for Waste Disposal by Landfill, 2nd Edition (DWAF, 1998) , and the National Norms and Standards for the disposal of waste to landfills promulgated in November 2013.

As has already been discussed, the closure and rehabilitation of the site would entail the following:

1. Shaping and landscaping of the waste body;
2. The construction of storm water management infrastructure;
3. Capping of the waste body in accordance with the Minimum Requirements;
4. Concrete palisade fencing;
5. The construction of gravel service / maintenance roads;
6. Vegetative cover of the final landform;
7. The construction of the required end-use infrastructure; and
8. Post closure environmental monitoring where necessary.

Design layout for the closure of the landfill is attached **Appendix C** of this report.

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Design Alternative 1: Closure Capping

Alternatives for Closure Capping

While new South African regulations for landfill capping design are still in the “works”, The Minimum Requirements for landfill still provide the specifications for closure and capping design for landfills in South Africa. The standard capping system consists of an intermediate cover layer, a clay layer and a vegetative layer. After the landfill or a single landfill cell has reached its final capacity the waste needs to be covered first by an intermediate cover layer, which is insensitive to settlements of the landfill surface. The functions of this intermediate cover layer (e.g. 50 cm of soil or compost) are:

- Prevention of erosion by wind and water;
- Reduction of water infiltration, and gas emissions;
- Promote vegetation, and
- Aesthetic issues.

However due to the size of some of the landfill sites which are to be closed, it might not warrant implementing such an expensive capping system. As an alternative to the standard capping design, natural alternatives may be considered for example, landfill covers constructed of native soils and vegetation can achieve the required level of infiltration reduction and provide significant cost savings over the current prescribed cover design.

Two types of alternative cover designs are *monolithic soil cover* and *capillary break cover* systems. The monolithic design makes use of one type of soil, which is typically silty, due to its high water holding capacity and compatibility with vegetation. This design works well in arid and semi-arid sites such as the Northern Cape Province because of its high rate of evapotranspiration (between 80 percent and 100 percent).

The capillary break system is comparable to a monolithic cover, except for a coarse-grained material layer (i.e. gravel), which is inserted about 3 feet below the topsoil layer. This lower layer disrupts soil

suction, which often draws moisture downward. Although more expensive than the monolithic cover, this system can perform better in cold or wet climates. Alternative final covers can provide several cost-saving benefits such as such as the following:

- On-site soils are used instead of importing large amounts of clay or buying synthetic materials.
- Landfill personnel and equipment can be used to construct the alternative cover, reducing operations and construction costs.
- Sites can cover as they fill, even one or two acres at a time.
- Native vegetation takes hold easier because of the more natural soil conditions.
- Long-term maintenance costs are lower.

In addition, geomembranes and compacted clay layers limit the activity possible at sites after closure and also limit how the land can be contoured or sloped. Using an alternative cover offers more flexibility. For example, a site that is currently an active landfill can be turned into a driving range or other natural recreation/ greenspace areas after final closure.

Design Alternative 2: End use Planning

An end-use plan for the landfill site shall guide what would be the most suitable land use for the area. The choice of type of end use is dependent on the urban or rural spatial planning of the area in which the landfill is situated. The Tables overleaf shows the end-use possibilities, categorized from low-graded re-use to high-graded end-use. The type of end-use can also be related to the potential vulnerability, expressed in the average number of hours per day that people are spending at the location. The longer humans spend at or near the site, the higher the chance of potential exposure to any residual effects of the landfill site and the higher the potential vulnerability. **Table 3** shows the relationship between vulnerability of the type of end-use and the environmental risk-levels of the landfill.

Table 2: End use types

Quality of End Use	Type of End Use
↓ ↓	Parking Area
	Industrial Area
	Commercial Area
	Natural Area
	Sports and Recreation
	Residential Area
High grade	

Table 3: Landfill End Use Matrix

Landfill Type	Type of End-Use	
	Low Vulnerability	High Vulnerability

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Low Risk ¹		
High Risk ²		

It is obvious that in the green box situation redevelopment projects can be initiated and carried out without any problem. The red box represents the opposite situation. For example from a psychological point of view the end use of the landfill site for housing will not be feasible anyway and should in fact not be wanted. In the yellow box situation many types of end-use are possible, but the feasibility is dependent on the local situation.

e) **No-go alternative**

The no-development alternative would entail continuing with the status quo, i.e. a situation where the Morgenzon Road landfill remains operational and un-rehabilitated. This could lead to major environmental liability, because sooner or later the municipality must take responsibility for adequate closure and rehabilitation of the landfill in line with the legislative requirements. Moreover, the closure/decommissioning of waste facilities is a listed activity in terms the National Environmental Management Waste Act, (Act No. 59 of 2008), Government Notice 921, Listed activity, Category A (14). Adopting the “No go alternative” is also against the Mpumalanga Provincial Spatial Development Framework, the Lekwa Local Municipality IDP and the Mpumalanga Department of Agriculture and Land Administration’s key performance area’s to ensure that Improved integrated waste management systems such as the legally permitted disposal facilities exist within each municipality. The need to licence many of the unlicensed waste disposal sites in South Africa by the Minister of Environmental Affairs is regarded as one of key project towards a cleaner environment. Further delays in implementing the project will mean that the Lekwa Municipality will continue to dispose waste on an unlicensed site thereby causing adverse environmental problems.

In addition, the need to licence many of the unlicensed Waste Disposal in South Africa by the Minister of Environmental Affairs is regarded as one of key project towards a cleaner environment. This initiative will aid in achieving the Ministers service delivery agreement Outcome 10 (Output 1 to 4) deliverable target/indicator that serves to ensure that environmental assets and natural resources are well protected and are continually enhanced. Further delays in implementing the project will mean that the Lekwa Local Municipality will continue to dispose waste on an unlicensed sites thereby causing adverse environmental problems. Further delays in implementing the project will mean that the Lekwa Municipality will continue to dispose waste on an unlicensed sites thereby causing adverse environmental problems.

The failure to design and rehabilitate the site as well as implement a suitable End-use Plan is therefore not considered a viable or sustainable alternative as it does not meet either the minimum requirements or the DEA standards for waste site decommissioning as prescribed in the National

¹ Low risk site here mainly refer to Communal sites, and small sites

² High Risk sites in this case refer to Medium, Large and Hazardous landfill sites.

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Environmental Management: Waste Act, 2009. Moreover, it does not conform to the Best Environmental Option available. The significance of the no-go alternative therefore has far more negative impacts and implications than the preferred alternative, namely the decommissioning and closure of the site.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1³ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

	12 600m ²
	12600m ²
	12600m ²

or, for linear activities:

Alternative: N/A

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

	m
	m
	m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

	m ²
	m ²
	m ²

4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES	NO
m	

Describe the type of access road planned:

The proposed sites can be reached via the existing access roads. The R547 is located on the western side of the landfill site whilst the R39 is located to the south of the landfill site. Various community access road provide access to the site

³ "Alternative A.." refer to activity, process, technology or other alternatives.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;

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- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES	NO	Please explain
The property is currently known as on Portion 3 of the Farm Morgenzon 466 IS. The Site is currently owned and managed by the Lekwa Local Municipality.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
Waste Management is one of the issues highlighted in the Mpumalanga Spatial Development Framework. As per the PSDF, it is the responsibility of the District Municipalities to ascertain that services such as waste disposal and environmental considerations are taken into account when undertaking overall planning. It is the provincial department's (Department of Agriculture and Land Administration) Key Priority Area 4: Sustainable Environmental Development to ensure that Improved integrated waste management systems such as legally permitted disposal facilities exist within each Municipality.			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The development is outside urban edge			

BASIC ASSESSMENT REPORT

<p>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>One of the key performance indicator (KPA 2) of the Lekwa Municipality includes the construction and maintenance of waste infrastructure. KPA 3 for the municipality includes the provision of sustainable, reliable and affordable waste disposal to all residents. The closure of the Morgenzon Road landfill is thus in line with the Municipality future plans. The Licensing of unlicensed landfill sites (including the Morgenzon Road landfill) has been identified in the Lekwa IDP 2015/2016.</p>			
<p>(d) Approved Structure Plan of the Municipality</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The proposed project entails the closure of the Morgenzon Road landfill , which is compatible with the Lekwa Local Municipality IDP 2015/2016</p>			
<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>There is no EMF that has been compiled for the area. The Mpumalanga Biodiversity Management Zones, Ecological Corridors, and Biodiversity & Cultural Heritage Conservation Nodes can be used to guide priority areas in terms of Conservation and protection of these areas to ensure that they are not degraded by mining, industrial, forestry, agricultural and human settlement activities.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>Besides the Biodiversity Management Zones, Ecological Corridors, and Biodiversity & Cultural Heritage Conservation Nodes outlined in the IDP2015/2016 no other plans are known to guide the development</p>			
<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The proposed development is in line with the National Development Plan and the Lekwa SDF's and IDP's, which relate to the provision of sustainable, reliable and affordable waste disposal to all residents. The Licensing of unlicensed landfill sites (including the Morgenzon Road landfill) has been identified in the Lekwa IDP 2015/2016.</p>			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p align="center">YES</p>	<p align="center">NO</p>	<p align="center">Please explain</p>
<p>The rehabilitation and post-closure monitoring of the site will contribute to the preservation of natural resources (including water, soil and biodiversity) on site and in the surrounding environment, and will reduce the risk of contaminating/ degrading nearby water resources.</p>			

BASIC ASSESSMENT REPORT

<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES	NO	Please explain
<p>The proposed project entails the closure and rehabilitation of a landfill site and the project will not require any capacity for services such as water and sanitation from relevant Municipalities.</p>			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES	NO	Please explain
<p>The proposed project entails the closure and rehabilitation of a landfill site and the project will not require any capacity for services such as water and sanitation from relevant Municipalities</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	NO	Please explain
<p>The project is managed by the National Department of Environmental Affairs. The main objective of the Department of Environmental Affairs is to licence 58 unlicensed municipal waste disposal facilities, that are either operational or need to be licenced for closure as identified throughout various provinces within the South Africa. This is in order to eliminate waste disposal facilities that are operating illegally and are not complying with the best operational management practices. The DEA intends to assist the respective municipalities to licence waste disposal facilities that are still operating illegally. Furthermore, this will aid in achieving the Outcome 10 deliverable target/indicator. The 58 sites are required to be licenced during the 2014/2015 financial year thereby providing a guiding tool that can improve the operational conditions at the facilities and identify the negative impacts and the respective mitigations.</p>			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	YES	NO	Please explain
<p>The current land use is waste disposal and it is the intention of the department to formally close the existing landfill in line with the applicable legislative requirements.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	YES	NO	Please explain
<p>As already noted, the site is currently used as a waste disposal site and the Municipality intends to close the site. It is a legislative requirement that the site be formally closed as per the NEMWA requirement.</p>			

BASIC ASSESSMENT REPORT

10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
The objective of the site decommissioning is to rehabilitate and stabilise the site to meet the applicable Environmental requirements in terms of the applicable legislation.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
The Lekwa Municipality are currently investigation other waste disposal options in the area. It is hoped that projects such the construction of a waste transfer station and buy back centres will be implemented following the closure of the Morgenzon Road landfill.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
The proposed decommissioning of the Morgenzon Road landfill will not negatively affect any person's rights. The site is currently used for disposing waste and is s located within a fenced area			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
The Morgenzon Road landfill and is a currently used for disposing waste and causing unsightly visual impacts as the site is not managed accordingly. The decommissioning of the site will not involve the construction of any infrastructure other activity that would compromise the integrity of the delineated urban edge			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
No			
15. What will the benefits be to society in general and to the local communities?	Please explain		
The rehabilitation and post-closure monitoring of the site will contribute to the preservation of natural resources (including water, soil and biodiversity) on site and in the surrounding environment, and will reduce the risk of contaminating/ degrading nearby water resources			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
It is the municipality's intention close and rehabilitate the Morgenzon Road landfill in order to prevent any contamination of the surrounding environment, and to secure proper and sustainable management of the environmental resources (soil, water, biodiversity etc.) on site. The Municipality want to also ensure that the decommissioned site is legally compliant with the NEM: WA 2008, and other key legislation and other strategic documents such as the IDP and the Provincial spatial development framework.			

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17. How does the project fit into the National Development Plan for 2030?	Please explain
The project is managed by the National Department of Environmental Affairs. The main objective of the Department of Environmental Affairs is to licence 58 unlicensed municipal waste disposal facilities, that are either operational or need to be licenced for closure, identified throughout various provinces within the South Africa.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
This report serves as a Basic Assessment report that will investigate all potential impacts (social, economic and environmental) that may result from the development including alternatives, assess and evaluate and further provide a mitigation plan for all identified potential impacts.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
Specialist opinions (fauna, flora, wetland) were appointed to advise on potential environment impacts. Identified environmental impacts were assessed and mitigation measures provided to control and manage these environmental impacts. Interested and Affected parties, land owners and relevant stakeholders were identified and involved throughout the Basic Assessment process and their comments addressed and recorded as part of this assessment.	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, No. 107 of 1998 (NEMA), as amended & NEMA EIA Regulations, 2010: GN544, published in Government Gazette 33306 on 18 June 2010	A Basic Assessment Report (BAR) is required for this project.	Department of Environmental Affairs (DEA)	1998
National Environmental Management: Waste Act No. 59 of 2008: Category A – GNR 718 : Activity 18	The decommissioning of the site will require a Waste Licence as it is listed activity under this Act	Department of Environmental Affairs (DEA)	1998
National Environmental Management: Biodiversity Act, Act 10 of 2004	The Mpumalanga Conservation Plans 2011 can be used to guide priority areas in terms of Conservation and protection of these areas to ensure that they are not degraded.	Department of Environmental Affairs (DEA)	2004
National Water Act, No. 36 of 1998	The site rehabilitation will occur in close proximity to wetlands and will require a Water use Licence	Department of Water Affairs (DWA)	1998
National Heritage Resources Act (Act No 25 of 1999)	Heritage Resources could be identified during site rehabilitation	South African Heritage Resources Agency	1999
National Environmental Management Act, Air Quality Act	Although not a listed activity under the NEMQA, this Act is to regulate the \ air quality in order to protect the	Department of Environmental Affairs (DEA)	2009

BASIC ASSESSMENT REPORT

	environment by providing reasonable measures for the prevention of pollution and ecological degradation	
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12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase? The activity

YES	NO
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If YES, what estimated quantity will be produced per month?

Unknown

How will the construction solid waste be disposed of (describe)?

Small quantities of solid waste will be generated during the rehabilitation phase of the project. It is anticipated that some of the waste will be used as capping material during the rehabilitation process. Waste that cannot be used for capping and rehabilitation purposes will be disposed at a licensed waste facility by the contractor. The exact amount could not be determined at this stage.

Where will the construction solid waste be disposed of (describe)?

Construction waste/debris should it occur will be collected by waste trucks on a weekly basis and disposed off at the nearest registered landfill site.

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

If YES, what estimated quantity will be produced per month?

m ³

How will the solid waste be disposed of (describe)?

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM: WA?

YES	NO
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If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
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If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of

YES	NO
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in a municipal sewage system?

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

m ³	
YES	NO

Will the activity produce effluent that will be treated and/or disposed of at another facility?

If YES, provide the particulars of the facility:

Facility name:		
Contact person:		
Postal address:		
Postal code:		
Telephone:	Cell:	
E-mail:	Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

None, as effluent from chemical toilets on site will be disposed off by the appointed Contractor at the Morgenzon Road Waste Water Treatment Works

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

If YES, is it controlled by any legislation of any sphere of government?

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

During the construction phase, dust and vehicular emissions will be released as a result of earthmoving machinery. However these emissions will have a short term impact on the immediate surrounding area and thus no authorisation will be required for such emissions. Appropriate dust suppression measures must be implemented (e.g. removal of vegetation in a phased manner and using recycled water for spraying dust to reduce the impacts).

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM: WA?

YES	NO
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If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

This application is a Waste Licence application for the decommissioning of the Morgenzon Road landfill site.

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e) Generation of noise

Will the activity generate noise?

YES	NO
YES	NO

If YES, is it controlled by any legislation of any sphere of government?

Describe the noise in terms of type and level:

Noise will be generated by construction vehicles and construction activities. It will however be short term, localised and will last during the construction phase. The noise levels are anticipated to be less during the day lesser during night time as required for suburban districts with little road traffic in terms of SANS 10103 thus no authorisation will be required.

In order to minimise the impacts of noise during the construction phase, construction activities should be restricted to between 07H00 and 17H00 Monday to Friday. This is required in order to avoid noise and lighting disturbances outside of normal working hours. All construction equipment must be maintained and kept in good working order to minimise associated noise impacts. If required, adequate noise suppression measures (i.e. screens, etc.) must be erected around the point source of construction and/or operational noise pollution to reduce noise to an acceptable level.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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Where water is required to support some activities e.g. dust suppression during the closure and rehabilitation phase, municipal water will be used

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

litres	
YES	NO

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

Fuel and Oil - Delivery Vehicles and other construction equipment will use petrol, diesel and oil. Use and number of such vehicles and machinery will be restricted to that which is absolutely necessary for the construction activities and deliveries.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Beside the use of energy saving techniques measures from non-renewable energy sources e.g. diesel and petrol, no other energy saving techniques are anticipated.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

**A – Proposed closure of
Morgenzon Road Landfill**

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	NO
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If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Mpumalanga
District Municipality	Gert Sibande
Local Municipality	Lekwa
Ward Number(s)	Ward 14
Farm name and number	Farm MORGENZON 466 IS
Portion number	Portion 3
SG Code	T0IS00000000046600003

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Industrial (Waste disposal services)

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES	NO
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

In terms of topography the site slopes gently downwards from south to the north.

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

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4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

According to the Ecological opinion, the Osspruit lies approximately 280m northwest of the site. Two unnamed tributaries of this river lie to the east and west of the site, approximately 60m and 90m respectively. It is likely that litter is blown into the watercourses. These rivers are important to the maintenance of regional hydrological integrity.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Landfill activities are visible on aerial imagery from 2011 (Google Earth). From the google earth images it is evident that crop and cattle farming have impacted the vegetation surrounding the site. To the south of the site the R39 road is present. The town of Morgenzon lies to the west of the site. This town

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contains residential infrastructure, roads and pathways. The waste water treatment works of the town does not lie within close proximity of the site but further south along the R35 road

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The Waste Water Treatment Works are outside the fenced boundary of the Morgenzon Road landfill and will not be impacted by the site decommissioning

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

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Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO
Buffer area of the SKA?	YES	NO

In terms of the Mpumalanga Biodiversity Sector Plan ("MBSP") indicates that the site is situated in a heavily or moderately modified area. However it should be noted that the areas surrounding the site is listed as a Critical Biodiversity Area ("CBA") according to the MBSP. According to the MBSP the CBA are areas of high biodiversity value. The CBA's should remain in a natural state with no further loss of habitat or species (Lötter et al., 2014).

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If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

The site is currently used for waste disposal services. The site is currently used for waste disposal services and no features of heritage significance was noted on site. However, should such be discovered during the closure, the responsible Heritage Authority will be notified.

Will any building or structure older than 60 years be affected in any way? Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.	YES	NO
	YES	NO

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Based on the review of the current IDP, it is to be noted that the Lekwa Municipality acknowledges that low economic growth and high unemployment rate are still prevalent and present a major challenge. These further translate to relatively high levels of poverty which is widespread within the Lekwa Local Municipality. High dependency ratio (11700 Households are living below poverty lines), Low literacy and education levels, a relatively high levels of income inequality and labour dependency ratio are some of the key factors contributing to the municipality's unemployment levels. This then means that the municipality is left to support the economically active group. Such indications pose a serious threat to the future development of the local economy (Lekwa IDP 2015/2016).

According to the Lekwa Local Municipality IDP, the unemployment rate is 25,90%, with a youth unemployment rate of 35.20%. The highest unemployment rate of 39.5% was in Ward 14 and the lowest in Ward 10 (5.5%). The formal sector employs about 71.4 % of the total population and the informal sector employs about 16.8% of the population. The leading industries in terms of employment is the agricultural sector (24.5%), whereas the trade industry employs about 19.4% of the total population and 13.8% is employed by the community services .

Specific to Morgenzon and according to the 2011 data from Stats SA indicated in **Figure 2**, out of a total of 898 people surveyed, 373 (41.5%) of these were employed, and 90 (about 10%) were unemployed. It must however be noted that 364 (40.5%) of the people surveyed were not economically active as they may be students, disabled, too young or too old to work etc. Persons who are economically active range from the ages of 15 to 64.

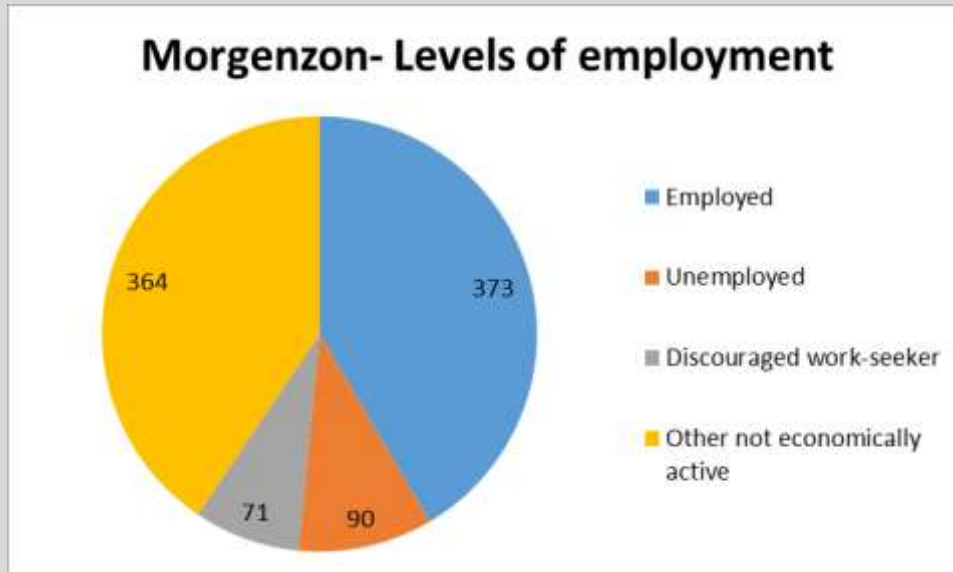


Figure 2: Unemployment levels for Morgenzon

It is obvious based on the unemployment figure highlighted above that the closure of the Morgenzon Road landfill will provide job opportunities for the local community.

Economic profile of local municipality:

According to the information obtained from STATSSA and the Municipality IDP (2015 – 2016, Morgenzon covers a total area on 304 ha which measures approximately 2km in a north-south direction and 3km in the east-west direction and is located at the intersection of the R35 and R39. Its existence is mainly influenced by the transportation of coal from the Secunda complex to Majuba Power Station near Volksrust. It is historically a local service centre that served (and still does) the surrounding commercial farming areas with basic needs. Despite its potential due to its location along a major route (R35) to Volksrust via the N11 from Bethal, it is still largely under-developed as a service centre due possibly to the competition offered by the more attractive business centres of Ermelo, Bethal and even Standerton itself. Given the vast distance between this locality and the Standerton Urban node, Morgenzon form a completely self-contained economic sub-node with a slightly different character than the former. Morgenzon is made up of Morgenzon Proper, Sivukile Proper, Sivukile Ext 1, Sivukile Ext 2, Sivukile Ext 3, Sivukile Ext 4 and Morgenzon Ext 1(industrial).

Level of education:

According to the 2011 data from Stats SA and based on a survey of 907 Morgenzon residents over the age of 20, only 115 (12.7%) had undertaken higher education. Almost a similar number, 112 (12.3%) had received no schooling. The majority of residents, 345 (38%) had received some

secondary education. Those who had completed the secondary information were 232 (25.5%). This and other information is illustrated in **Figure 3**.

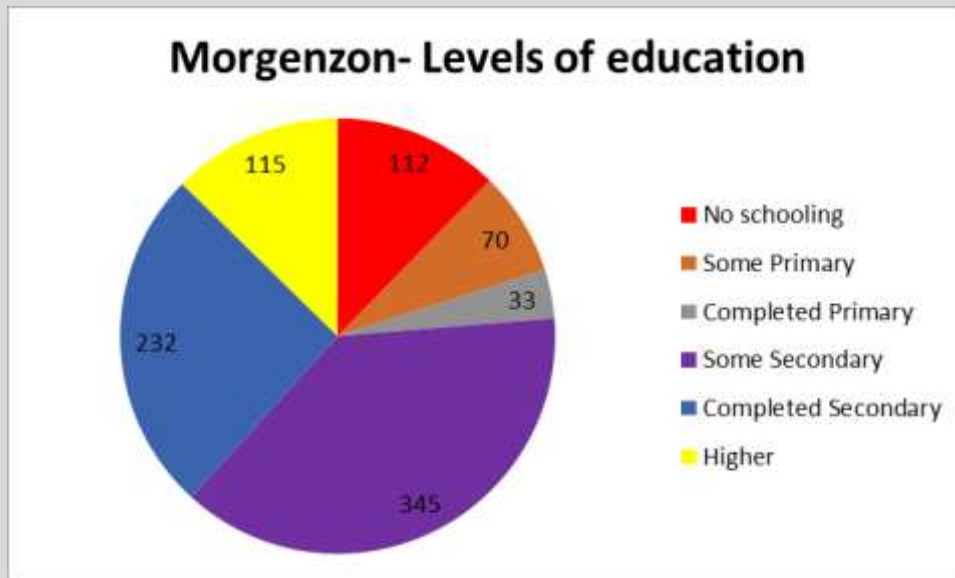


Figure 3: Levels of education within Morgenzon

As part of the undertaking of activities related to the closure of the Morgenzon landfill, knowledge on the levels of education will be of importance in the communication of information to various parties who may be involved in the project. This includes any local labourers who will become involved in the project. It is obvious based on the unemployment figures that the closure of the Morgenzon Road landfill will provide job opportunities.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	5 Million
What is the expected yearly income that will be generated by or as a result of the activity?	None as this is a site closure
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Not determined, local labour will be sourced
What is the expected value of the employment opportunities during the development and construction phase?	Not determined, local labour will be sourced by the appointed Contractor
What percentage of this will accrue to previously disadvantaged individuals?	Not determined, contractor is expected to adhere to applicable legislation
How many permanent new employment opportunities will be created during the operational phase of the activity?	Operation phase not applicable
What is the expected current value of the employment opportunities during the first 10 years?	Unknown
What percentage of this will accrue to previously disadvantaged individuals?	Unknown

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	Eastern Highveld Grasslands*

According to the Ecological opinion undertaken for the site, the Mpumalanga Biodiversity Sector Plan ("MBSP") has classified the area as heavily or moderately modified area. It should be noted that the areas surrounding the site is listed as a Critical Biodiversity Area ("CBA"). The vegetation surrounding the site however has provincial significance and it is likely that sensitive plant species along with sensitive aquatic ecosystems are present in close proximity to the site. Every effort should be made to limit disturbance to the areas surrounding the site.

- b) **Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	5%	No natural habitat remains on the site.
Degraded (includes areas heavily invaded by alien plants)	95%	The site is actively used for dumping waste and has over the years degraded due to the level of ongoing dumping. Alien invasive plant species are prominent on the landfill site and a large amount of natural habitat for plant species has been lost due to the landfill activities and also grazing currently present.

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Transformed (includes cultivation, dams, urban, plantation, roads, etc)	0%	
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c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems								
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline			
	Endangered									
	Vulnerable									
	Least Threatened									
		YES	NO	UNSURE	YES	NO	YES	NO		

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

According to the information provided in the Ecological opinion undertaken, the site falls within the vegetation unit Soweto Highveld Grassland (Gm 8) *sensu* Mucina and Rutherford (2006). As the name suggests this vegetation the dominant plants are of *poacea* or grass family. *Themeda triandra* frequently is the dominant species present in this vegetation unit. It often occurs along with *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. The landscape supporting this vegetation unit is gently to moderately undulating. Most of this vegetation unit is situated on the Highveld plateau. This vegetation unit is endangered with only a few hectares statutorily conserved. The biggest threat to this vegetation unit is cultivation, mining and urban sprawl. (Mucina & Rutherford, 2006). However, from aerial imagery it is considered unlikely that untransformed vegetation remains of the study site.

A search for red listed species with in the 2629DA grid was conducted. Only *Gladiolus robertsoniae* was listed as near threatened in this grid. A total of 46 species was listed in the 2629DA grid (POSA 2015). *Gladiolus robertsoniae* is approximately 20-40 cm in height; the flower colours are predominantly white but sometimes flushed with violet toward the *tepal apices*. The flowering time for *Gladiolus robertsoniae* is mostly October occasionally to late November and rarely into late December (Goldblatt & Manning 1998). The habitat for *Gladiolus robertsoniae* is moist Highveld grassland, mostly dolerite outcrops and wedged between rock crevices (Raimondo et al. 2009).

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Standerton Ibis Newspaper	
Date published	25 September 2015	
Site notice position	Latitude	Longitude
	26°43'44.17"S	29°37'19.55"E
Date placed	23 September 2015	

Please refer to additional proof of site notices in Appendix E1.

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Organisation	Name	Address	Email address	Cell Number
Lekwa Municipality Local	Cllor George Makhanya			Available on Request
Lekwa Municipality Local	Ms Nomsa Khatu		nkhatu@lekwalm.gov.za	Available on Request
Afriforum	Tiaan Esterhuizen		tiaan@afriforum.co.za	Available on Request
Afriforum	Karen Hewitt		karenh@afriforum.co.za	Available on Request
Agrisa	Mr Robert Daffel		robert.mp@mweb.co.za	Available on Request
Mpumalanga Wetland Forum	Mr Andre Beetge		A.Beetge@sanbi.org.za	Available on Request
Eskom	Ms Louise Human	288 Ext. 2, Morgenzon Road	Louise.Human@eskom.co.za	Available on Request
Resident	Jacob Mpilo	P O Box 165, Morgenzon Road, Esivukile, 2315		Available on Request
Resident	Mashume Mdeli	154 Old Location, Morgenzon Road		Available on Request
Resident	Radebe Tsepo	1257 Ext.3, Morgenzon Road, 2315		Available on Request
Resident	Somandla Makhubu	619 Ext, Morgenzon Road		Available on Request
Resident	Schoolboy Makau	Ext.1, Morgenzon road		Available on Request
Resident	Josphine Manana	494 Ext.3, Morgenzon Road		Available on Request
Resident	Mafa Dube			Available on Request
Lekwa Municipality Local	Makhasazi Radebe		m.radebe@lekwalm.gov.za	Available on Request

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*Please also refer to the project database (**Appendix I5**) for a complete list of stakeholders registers on the project.*

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
<p>State of the landfill Mr A G Odendaal whose property is in close proximity to the landfill site raised concerns on the current state of the site. He suggested the landfill be moved to the other side of the R39 on the way to Standerton.</p>	<p><i>The comment was noted. It is not known yet where the specific location of the landfill site will be. The Municipality is currently investigating other viable waste disposal options .e.g. waste transfer stations, drop off facilities, regional landfill etc. in order to cater for the general waste that will be generated in future within the town.</i></p>
<p>Odour/ Air Quality There are dead animals being thrown away at the landfill site. There is a bad odour when approaching the site.</p>	<p><i>It is the intention of this project to ascertain that landfill site are management in line with the requirement of NEMWA. Odour nuisances will be mitigated through the decommissioning phase of the site as per NEMA requirements.</i></p>
<p>Need for another site If the Lekwa Local Municipality is proposing to close the landfill site. The community is concerned about where they will dispose of their waste. What is the alternative solution?</p>	<p><i>It is known yet where the specific location of the landfill site will be. The Municipality is currently investigating other viable waste disposal options .e.g. waste transfer stations, drop off facilities, regional landfill etc. in order to cater for the general waste that will be generated in future within the town.</i></p>
<p>Jobs / Unemployment A suggesting was made that the local community / residents should be considered should any job opportunities arise during the decommissioning / closure of the site.</p>	<p><i>The need for employment for the local community members is acknowledged. It is the intention of the Municipality to give preference to local labour. It is however difficult to indicate the extent to which the project will benefit the community in terms of jobs at this stage. The rehabilitation of landfill as part of the closure is a highly specialised field requiring specific expertise and for which the appointed Contractor will utilise his own team. However, there is a possibility of hiring local communities for manual labour, e.g. clearing of land for the establishments of the construction camps, as well as other manual work that does not require specialised expertise. The project will create other job opportunities for the community, such as selling of food, etc. for the construction</i></p>

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	<p><i>team. It is a recommendation of this Basic Assessment local that labour be sourced where applicable.</i></p>
<p>Impacts on Human Health There are dead animals and used nappies disposed on site. The dead animals could potentially contaminate groundwater or the nearest water cause during a rainy season. Stormwater runoff should be contained. This threatens the source of water for the communities that are depended on the Osspruit river for drinking water.</p>	<p><i>The dumping of dead animals is not acceptable in terms of the Waste Legislation. It must however be noted that the proposed closure of the landfill seek to address the current environmental problems. It must also be noted that following the issuing of the Waste Licence, the Municipality will be bound by the conditions of the licence to ensure proper closure of the site as per the legislative requirements. The waste on the site will be cleaned up, compacted, covered and capped as per DWAF Minimum Requirements of 1998. The issue of air pollution will therefore be eliminated</i></p>
<p>Impacts on Animals Mr Sanele Ntshangase stated that he is worried about his life stock due to the carelessness of the landfill management. The landfill activities are not contained within the boundary fence. Life stocks ends up eating the waste from the landfill when grazing.</p>	<p><i>The grazing of domestic animals and other livestock in landfill is not acceptable in terms of the Waste Legislation. It must however be noted that the proposed closure of the landfill seek to address the current environmental problems. It must also be noted that following the issuing of the Waste Licence, the Municipality will be bound by the conditions of the licence to ensure proper closure of the site as per the legislative requirements. The landfill will be fenced off and indefinitely locked following the issuing of the Closure licence as per DWAF Minimum Requirements of 1998. The issue of air pollution will therefore be eliminated</i></p>

Please refer to the Comments and Response Report attached as Appendix E3

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

*The Comments and Response report is attached as **Appendix E3**.*

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

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Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail
Mpumalanga DARLE	Ms Gezepi Nyalunga	Available on Request		ghnyalunga@mpg.gov.za
Lekwa Local Municipality	Mr Hendrik van der Merwe	Available on Request		hendrik.vd@govanmbeki.gov.za
Mpumalanga Dept of Water Affairs and Sanitation	Ms Thobile Johnson	Available on Request		johnsont@dws.gov.za
Gert Sibande District Municipality	Ms Tebogo Mogakabe	Available on Request		tebogo.mogakabe@gsibandedm.co.za

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report

Planning and Design Phases: *The planning and design phase of the landfill closure are not expected to result in any negative impacts because the closure and end-use planning, as well as other studies will inform the structures to be built rather than cause direct impacts. This statement assumes that the rehabilitation plans and end-use design/purpose is not fatally flawed. As all rehabilitation plans and designs are subject to review and final authorisation by the Department, it is reasonable to assume that there will be no fatal flaws in the design*

Direct impacts: (Construction phase): *Impacts from Construction and operational phase are not applicable as the site will be decommissioned. Although the site is severely transformed by several anthropogenic activities and in an extremely degraded state, it is unlikely that the site rehabilitation could degrade the area further if adequate management measures are implemented. An Ecological opinion (**Appendix D**) has been undertaken to identify potential stability issues that may emanate from this site decommissioning. The impacts that are likely to occur during the rehabilitation phases are assessed and presented in Tables overleaf.*

*For the purposes of this assessment, this impact assessment will only focus on the impacts that are likely to occur during the decommissioning phase of the Morgenzon landfill. Impacts from the design alternatives considered (Landfill capping and End use) will collectively be assessed with the decommissioning impacts as the impacts are likely to be similar. It must also be noted that, the phrase '**decommissioning**' and '**construction**' will be used interchangeably as it is understood that although the landfill site will be decommissioned, construction activities such as levelling, capping, slope shaping etc. related to the 'decommissioning'/'closure' will be undertaken.*

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Decommissioning phase		Morgenzon Landfill site		
Potential impacts:	Description	Significance rating of impacts: (without mitigation)	Proposed mitigation: Construction and operation phase	Significance rating of impacts after mitigation:
1. Impacts on flora <i>(Re-capping” and reshaping of selected areas on site may result in disturbance to vegetation)</i>	<p>Direct impacts</p> <p>Removal and clearing of alien vegetation and other species not suitable for the rehabilitation of the landfill site. Alien Vegetation was noted to have been established within the active disposal site and outside the boundaries of landfill site.</p> <p>The closure phase will involve rehabilitation and management of impacted areas, and if implemented correctly, is likely to have positive impacts on the remaining natural vegetation</p>	<p>Medium</p>	<ol style="list-style-type: none"> 1. Clearing of vegetation should be minimal within and outside the landfill boundaries. 2. Rehabilitation / restoration of remaining indigenous vegetative cover and grassland during and after rehabilitation; 3. Management of point discharges during rehabilitation activities to avoid unnecessary soil erosion; 4. Implement alien plant control activities; 5. Implementation of best management practices regarding stormwater and earthworks; 6. Provision of adequate sanitation facilities located outside of the wetland/riparian area or its associated buffer zone during construction activities; 7. Implementation of appropriate stormwater management during rehabilitation to prevent the ingress of run-off into the excavation; and particularly; and 8. Prevention of erosion, and where necessary rehabilitation of eroded areas. 	<p>Low</p>
	<p>Indirect Impacts</p> <p>Establishment of alien and invasive species in disturbed areas</p>	<p>Low</p>	<ol style="list-style-type: none"> 1. Control and manage alien invasives 2. Attention must be given to newly re-shaped/ recapped areas, and any other areas disturbed during closure operations which may be vulnerable to infestation by invasive 	<p>Low</p>

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			<p>and alien plant species.</p> <ol style="list-style-type: none"> 3. Monitoring programme be implemented to enforce continual eradication of alien and invasive plant species 4. Control and manage the removal of vegetation 5. Vegetation removal to be undertaken in consultation with the ECO 	
	<p>Cumulative impacts</p> <p>Vegetation loss in the area from other dev developmental projects</p>	Low	<ol style="list-style-type: none"> 1. Control and manage the removal of vegetation 2. Vegetation removal to be undertaken in consultation with the ECO 	Low
2.Impacts on fauna	<p>Direct Impacts</p> <p>Faunal species cohabiting in the area will be disturbed during the rehabilitation activities e.g. Killing and snaring of mammal and reptile species by labourers.</p>	Moderate	<ol style="list-style-type: none"> 1. Intentional killing of faunal species should be avoided by means of awareness programmes presented to the labour force. The labour force should be made aware of the conservation issues pertaining to the species occurring on the study site 2. All construction activities must be limited to daylight hours 3. Minimisation of disturbance of trees and construction footprint 4. Prevention of runaway fires. 	Low
	<p>Indirect Impacts</p> <p>Disturbances of faunal species across extended temporal scales will eventually affect any population's ability to sustain itself, and will more than likely result in total abandonment of a particular area.</p>	Moderate	Implement mitigation measures outlined above	Low
	<p>Cumulative impacts</p> <p>Disturbances of faunal species across extended temporal scales will eventually affect any population's ability to sustain itself, and will more than likely result in total abandonment of a particular area.</p>	Low	Implement mitigation measures outlined above	Low

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<p>3.Impacts on surrounding water resources</p>	<p><i>Direct impacts</i></p> <p>Surface water brought about by the closure and rehabilitation efforts may flow into surrounding wetlands during the site rehabilitation if inappropriately managed</p> <p>Due to the close proximity of water resources close to the site, these are highly likely to be impacted on by construction activities</p>	<p>Moderate</p>	<ol style="list-style-type: none"> 1. Avoid, as far as reasonably possible, disturbing watercourses 2. The Municipality must apply for a Water use licence before commencement of the rehabilitation activity within the wetland if impacted. 3. Control of activities directly impacting on wetland resources e.g. Few construction workers and limited construction machinery must be allowed in the surrounding wetland area to limit the impacts 4. Stormwater should not be diverted into wetlands 5. Cement mixing, if applicable, will need to take place on a hard surface or cement mixing trays (mortar boards) will need to be used for this purpose. Cement mixing will not be permitted to occur where run-off can enter stormwater drains or water bodies. 6. No vehicle washing must occur on site unless in a designated wash bay which must then be constructed. Wash bays must be installed with sand and grease traps. 7. A 30m buffer from the wetland is recommended and must be implemented where practical and possible. 8. Management of on-site water use must be strictly implemented 9. In the case of pollution of any surface or groundwater, the Regional Representative of the Department of Water Affairs must be informed immediately 	<p>Low</p>
	<p><i>Indirect Impacts</i></p> <p>Sedimentation and disturbance of surrounding wetland ecosystem due to</p>	<p>Low</p>	<p>Implement mitigation measures outlined above</p>	<p>Low</p>

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	rehabilitation activities			
	<p>Cumulative impacts</p> <p>Change of wetland functioning due to rehabilitation activities occurring at the Morgenzon landfill</p>	Moderate	Implement mitigation measures outlined above	Low
<p>4. Impacts on groundwater</p> <p>Groundwater contamination during the rehabilitation activities. <i>(The risk of landfill leachate contaminating surface and groundwater resources, thereby reducing the quality of groundwater in the area)</i></p>	<p>Direct impacts</p> <p>Excavation and Capping activities during site rehabilitation may trigger groundwater seepage into the excavated area</p> <p>Hydrocarbon leakages from plant vehicles and poor management of sources of hydrocarbon leakages has a potential to pollute underground and surrounding resources</p>	Medium	<ol style="list-style-type: none"> 1. Storm-water management measures to prevent ponding and to encourage storm water to flow around/ off the site, must be implemented on site. 2. Measures to prevent ongoing illegal dumping of waste must be implemented 3. Adhere to all the mitigation highlighted in the Closure plan attached as Appendix G2 4. Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants. 5. All cement mixing must occur on impervious surfaces and within controlled bermed areas. 6. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site. 7. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the site rehabilitation 8. No materials may be discharged from the construction camps. 	Low
	<p>Indirect Impacts</p> <p>Contaminated groundwater can flow to other aquifers within Morgenzon and possibly beyond this.</p>	Low	Implement mitigation measures outlined above	Low

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	<p>Cumulative impacts</p> <p>The irrigation of crops with contaminated groundwater can result in illness to the humans and animals who will consume them.</p>	Low	Implement mitigation measures outlined above	Low
5.Impacts on stormwater	<p>Direct impacts</p> <p>The accumulation of uncontrolled stormwater runoff on the environments. The landfill will continue to generate surface runoff and leachate long after closure and hence effective storm water management must be implemented</p>	Medium	<ol style="list-style-type: none"> 1. The landfill can be rehabilitated (landscape the landfill to resemble the natural topography) 2. Construction of an attenuation/leachate pond onsite to capture runoff water and polluted water from the landfill, and surrounding environment 3. Ensure effective stormwater management principles to reduce the loss of topsoil during heavy downpours 	Low
	<p>Indirect Impacts</p> <p>Contaminated stormwater can flow to aquifers and surface water resources in close proximity to the site as well as other areas at a distance from the site</p>	Low	Implement mitigation measures outlined above	Low
	<p>Cumulative impacts</p> <p>Contaminated stormwater that negatively impacts on water resources can be used for other activities which can affect human and animal health</p>	Low	Implement mitigation measures outlined above	Low
6.Impacts on soils	<p>Direct impacts</p> <ul style="list-style-type: none"> - Insufficient stormwater control measures on site may result in soil erosion in areas that are not properly managed during the rehabilitation phase - Contaminants may also be released from the waste body into the soil during 	Moderate	<ol style="list-style-type: none"> 1. Regularly inspect all storm water channels 2. Provide soil conservation measures in areas of susceptible erosion 	Low

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	the site rehabilitation			
	Indirect Impacts None	N/A		N/A
	Cumulative impacts None	N/A		N/A
7. Noise impacts	Direct impacts Vehicles transporting materials to and from the site will potentially cause an additional noise burden to adjacent residents (± 1 km from the site) as well as along internal access roads. Construction workers may be affected by noise generated by construction machinery	Medium	<ol style="list-style-type: none"> 1. Construction activities to be limited to office hours on weekdays as far as possible. 2. The contractor must ensure that noise levels remain within acceptable limits and that labourers have equipment such as ear plugs to be used during the undertaking of activities with high levels of noise 3. Maintenance of equipment and operational procedures: Proper design and maintenance of silencers on diesel-powered equipment 	Low
	Indirect Impacts Due to exposure to high noise levels, deafness can result among site labourers	Low	Adhere to noise mitigation measures already discussed	N/A
	Cumulative impacts With the loss of hearing, labourers are likely to be unable to secure jobs. This may result in the inability to provide for their dependents	Low	Adhere to noise mitigation measures already discussed	Low
8. Impact on dust and air quality: The influx of pollutants will occur due to the establishment of the construction camp and the movement of people and vehicles on site. Excavated and stockpiled material that is vulnerable to wind has the	Direct impacts Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent residents. Trucks may potentially distribute dust along internal access roads	Medium	<ol style="list-style-type: none"> 1. Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated. This must also be undertaken during windy and dry weather conditions 2. A continuous dust monitoring process needs to be undertaken during construction. 	Low

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potential to contribute to the influx of pollutants in the air.			<ol style="list-style-type: none"> 3. Speed restriction of 20km/h must be implemented for all construction vehicles. 4. All vehicles transporting friable materials such a sand, rubble etc. must be covered by a tarpaulin or wet down. 	
	<p>Indirect Impacts</p> <p>None</p>	<p>N/A</p>	<p>Adhere to dust mitigation measures already discussed</p>	<p>N/A</p>
	<p>Cumulative impacts</p> <p>Dust and other air quality impacts resulting from the rehabilitation activities will be cumulative to the impacts already occurring.</p>	<p>Low</p>		<p>Low</p>
<p>9. Impact on visual and aesthetic quality</p> <p>(Construction waste or building rubble during rehabilitation and closure works) but the closure of the landfill site will reduce the visual nuisances caused by the existing landfill</p>	<p>Direct impacts</p> <p>Stockpiled materials; workforce; and rehabilitation activities may add to the existing visual impacts <i>from surrounding activities</i> in the area.</p>	<p>Moderate</p>	<ol style="list-style-type: none"> 1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Local Municipality. 2. No wastes may remain on the construction site for more than two weeks. 3. Supply sufficient garbage bins throughout the site and empty regularly. 4. Ensure good housekeeping is implemented at all times. 5. Keep the property neat and litter free at all times and maintain the landscaped areas. 6. Indigenous vegetation should be used to create habitats that attract the natural fauna in the area as far as possible 7. The Construction camp must be contained 	<p>Low</p>

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			<p>to prevent any visual intrusion and be kept in a clean and orderly state at all times.</p> <p>8. When vertical structures or surfaces are lit such as building facades or signs, direct the light downwards.</p>	
	<p>Indirect Impacts</p> <p>The rehabilitation of the landfill site will reduce/eliminate the impact from the existing visual nuisances caused by waste dumping</p>	Low positive	Adhere to visual mitigation measures already discussed	Low
	<p>Cumulative impacts</p> <p>None</p>			Low
10. Impact on socio-economics	<p>Direct impacts</p> <p>Influx of workers in the area may raise concerns from neighbouring residents</p>	Medium	<ol style="list-style-type: none"> 1. All adjacent landowners must be informed of the construction processes prior to commencement of construction activities. 2. Adjacent land owners must be informed timeously of any service stoppages in their areas. 3. Notification must include possible timeframes for stoppages. 4. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners. 5. Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so alternatives can be provided. 	Low
	<p>Direct impacts</p> <ul style="list-style-type: none"> • Local residents are likely to get some of the unskilled labour employment opportunities during the closure 	Medium- Positive	<ol style="list-style-type: none"> 1. The rehabilitation phase will provide direct temporary employment for locals, and indirect employment through demand for construction materials, and support services, as well as empowerment and skills transfer 	Low

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	<p>related activities</p> <ul style="list-style-type: none"> The Reclaimers working on the landfill will lose some revenue once the facility is closed 	<p>Medium- Negative</p>	<p>opportunities.</p> <ol style="list-style-type: none"> Municipality to investigate other waste disposal options e.g. waste transfer stations and buy back centres in order to enhance the reclaimers 's market and municipality to initiate projects that encourage and promote recycling The construction of the regional landfill site must be complete and must absorb the reclaimers The rehabilitation phase must be designed to accommodate labour intensive tasks as possible Labour must be sourced from the local people especially youth, people with disabilities and women <p>1. Reclaimers must be absorbed in the creation of jobs at the waste disposal facilities that the municipality will implement subsequent to the closure of the landfill</p>	
	<p>Indirect Impacts Indirect employment through demand for construction materials, refreshments and support services, as well as empowerment and skills transfer opportunities</p>	<p>Medium positive</p>	<p>The contractor must as far as possible source resources from locals</p>	<p>Low</p>
	<p>Cumulative impacts The increased demand for construction materials will in turn result in the creation of jobs at factories</p>	<p>Low- positive</p>	<p>N/A</p>	<p>Low</p>
	<p>Cumulative impacts Increased job opportunities could result in the ease of acquisition of resources</p>	<p>Low- Positive</p>	<p>N/A</p>	<p>Low</p>

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	that the unemployed could not previously afford			
11. Impacts on traffic and local roads	<p>Direct impacts</p> <p>1. Traffic will be congested as a result of construction activities. 2. Construction machinery and heavy vehicles are likely to generate dust which is likely to be perceptible by adjacent land owners. Trucks may potentially distribute dust along internal access roads.</p>	Low	<ol style="list-style-type: none"> 1. Vehicular movement beyond the property boundaries may not occur during peak hour traffic times (07h30 – 08h30 and 16h00 – 17h00). 2. There must be an erection of signage warning motorists about the presence of construction vehicles as well and the need to reduce speeds. 3. It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient and effective access control system. 4. Speed restriction of 20km/h must be implemented for all construction vehicles. 	Low
	<p>Indirect Impacts</p> <p>Traffic congestion can result in road accidents</p>	Low	Adhere to mitigation measures already discussed	Low
	<p>Cumulative impacts</p> <p>Traffic accidents caused by construction activities can result in possible litigation against the contractor</p>	Low		Low
12. Health and Safety impacts	<p>Direct impacts</p> <p>Impacts/injuries to humans entering the site either legally or illegally</p>	Medium	<ol style="list-style-type: none"> 1. Signs in appropriate local languages must be erected on site to warn people entering the sites of the potential risks 2. The site and excavations must be fenced off and demarcated using danger tape to ensure that no animals or residents enter the area. 3. Safety clothes and equipment must be worn at all times. 4. The Safety Officer on site should put any other measures in place to ensure that health and safety of all persons entering the 	Low

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			<p>site either legally or illegally is not compromised</p> <p>5. No fires should be allowed at or around the construction site.</p>	
	<p>Indirect Impacts</p> <p>The health and safety of passer-by's can be affected by incidents such as where material from the site, e.g. stones, causes injuries</p>	Low	Adhere to mitigation measures already discussed	Low
	<p>Cumulative impacts</p> <p>Persons injured on site could pursue litigation against the contractor and/or client</p>	Low	Adhere to mitigation measures already discussed	Low
<p>13. Impacts on unknown and existing cultural and heritage resources</p>	<p>Direct impacts</p> <p>Exposure of unknown heritage features beneath the earth surface</p>	Medium	<ol style="list-style-type: none"> 1. The construction team should be made aware of this. Should any archaeological material or human remains be accidentally unearthed during the course of construction 2. Construction personnel must be alert and inform local Council should they come across any features of heritage value and must cease construction activities immediately 3. No heritage feature can be removed, destroyed and/or interfered with on site without the permission of an accredited archaeologist 	Significance rating of impacts after mitigation
	<p>Indirect Impacts</p> <p>Heritage resources of importance may be damaged/illegally removed.</p>	Low	Adhere to mitigation measures already discussed	Low
	<p>Cumulative impacts</p> <p>This may then result in the loss of possible new knowledge</p>	Low	Adhere to mitigation measures already discussed	Low

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Operational phase impacts: <i>No operational phase impacts are expected to occur as the site decommissioning is proposed</i>				

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

The decommissioning and closure of the Morgenzon Road landfill site which is to be authorised is expected to improve the current site condition which has creating a visual and other environmental nuisances over the years. Once rehabilitated, the site can therefore be closed and potential for other end uses can be investigated.

Based on the summary of environmental observations presented, it is a conclusion of this BA that the proposed project will have moderate to low impacts on the bio-physical environment, all of which can be fully mitigated and managed, and where possible prevented. The proposed development will have an impact of low significance on the two unnamed non-perennial tributaries of the Osspruit lying outside of the site boundary. The current landfill activities will be terminated. Rehabilitation on site to compensate for construction related impacts will likely have limited effects with regards to restoring the maintenance of a natural biodiversity, as the original ecosystem's hydrological integrity and inherent species bank have been completely lost. No unacceptably impacts of unacceptably high significance are foreseen once proper mitigation measures have been implemented.

The Closure plan and the outlined applicable mitigation measures in the EMPr and procedures must be implemented during the rehabilitation of the site. It is crucial that the site management requirements and procedures outlined in this report be implemented as an attempt to restore the current land use.

There is a possibility that the Municipality will also require a Water use licence (as the activity is located within 500m from a wetland/ watercourse). If this is the case, approval of the Water Use Licence application must be obtained before commencement with the site rehabilitation for decommissioning purposes.

Alternative B

NOT APPLICABLE

Alternative C

NOT APPLICABLE

No-go alternative (compulsory)

The no-development alternative would entail continuing with the status quo, i.e. a situation where the Morgenzon Road landfill remains unclosed and un-rehabilitated. This could lead to major environmental liability, because sooner or later the Municipality must take responsibility for adequate closure and rehabilitation of the landfill in line with the legislative requirements. Moreover, the closure/decommissioning of waste facilities is a listed activity in terms the National Environmental Management Waste Act, (Act No. 59 of 2008), Government Notice 921, Listed activity, Category A (14). Adopting the "No go alternative" is also against the Mpumalanga Provincial Spatial Development Framework, the Lekwa local Municipality IDP and the Mpumalanga Department of Agriculture and Land Administration's key performance area's to ensure that that Improved integrated waste management systems such as the legally permitted disposal facilities exist within each

Municipality.

In addition, the need to licence many of the unlicensed Waste Disposal in South Africa by the Minister of Environmental Affairs is regarded as one of key project towards a cleaner environment. This initiative will aid in achieving the Ministers service delivery agreement Outcome 10 (Output 1 to 4) deliverable target/indicator that serves to ensure that environmental assets and natural resources are well protected and are continually enhanced. Further delays in implementing the project will mean that the Lekwa Local Municipality will continue to dispose waste on an unlicensed sites thereby causing adverse environmental problems.

The failure to design and rehabilitate the Site as well as implement a suitable End-use Plan is therefore not considered a viable or sustainable alternative as it does not meet either the Minimum Requirements or the DEA standards for waste site decommissioning as prescribed in the Environmental Management: Waste Act, 2009. Moreover, it does not conform to the Best Environmental Option available. The significance of the no-go alternative is therefore has far more negative impacts and implications than the preferred alternative, namely the decommissioning and closure of the site.

- **Direct impacts**

- The Morgenzon Road landfill remains unclosed and un-rehabilitated
- Potential delay in terms of implementing the IDP requirements (licencing of all existing landfill within the Municipality), the site will remain un rehabilitated
- Contravening the National Environmental Waste Management Act, Act 59 of 2009

- **Indirect Impacts**

Possible negative environmental impacts e.g. wetland deterioration and ongoing contamination of groundwater and the wetland itself will continue

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	NO
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If “NO”, indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

This BAR has provided a comprehensive assessment of the potential minimal environmental impacts associated with the closure of the Morgenzon Road landfill. These impacts have been identified by the EIA team. The key findings of the BA are discussed in this Report. In general, the proposed decommissioning and closure will have an impact of low significance on the two unnamed non-perennial tributaries of the Osspruit lying outside of the site boundary. The current landfill activities will cease. The Specialist’s recommendation and mitigations measures should be put in place to avoid contamination of the Osspruit due to the current landfill activities. Installation of litter traps and an investigation as to the actual effect of the landfill site on water quality are suggested. Rehabilitation on site to compensate for construction related impacts will likely have limited effects with regards to restoring the maintenance of a natural biodiversity, as the original ecosystem’s hydrological integrity and inherent species bank have been completely lost. No unacceptably impacts of unacceptably high significance are foreseen once proper mitigation measures have been implemented.

The closure of Morgenzon Road landfill site is therefore the only alternative option in this BAR is based on the minimal impacts of the proposed project on the bio-physical environment to be affected by the project and project costs; It is therefore recommended that the environmental authorities the development subject to the following conditions:

- *The District and Local Municipalities must initiate projects to raise awareness on waste management in communities;*
- *The District Municipality must prioritise the implementation of alternative waste disposal options (construction of waste transfer stations, buy-back centres etc.)*
- *Existing reclaimers working on the landfill be formerly incorporated into future waste disposal options that will be considered in the area;*
- *Compliance with the mitigation measures outlined in this BA report , EMPr; and Closure Plan;*
- *Implementing and adhering to the rehabilitation procedures and measures outlined in the Closure plan;*
- *Adhering to the mitigation measures outlined in the Ecological opinion report compiled by Limosella Consulting;*
- *The municipality must initiate clean up campaigns to ensure that all waste noted outside the active dumping site is removed and dumped within the active area;*
- *Rehabilitation activities planned for landfill should be done with care to minimize any accidental spills of hazardous and harmful materials. Swift reaction and remedial actions will limit the local risk of polluting to groundwater and environment.*
- *Regular/applicable monitoring and evaluation of the Morgenzon Road landfill for*

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environmental compliance;

- *All adjacent landowners be informed 30 days before the commencements of the Rehabilitation activities;*
- *An independent ECO should be present during rehabilitation of the site to ensure the rehabilitation is undertaken in an environmental sensitive manner*
- *Compliance with all legal requirements in relation to environmental management and conditions of the authorisation issued by DEA.*
- *The Lekwa Municipality should consult the Department of Water and Sanitation officials to determine the need of any water use license.*

Accordingly and based on the environmental assessment of the conditions, the proposed site decommissioning has emerged as the most viable option as triggered the NEMWA regulations. It is therefore a recommendation of this Basic Assessment that the site decommissioning is authorized and the project be granted a positive authorisation.

Is an EMPr attached?

YES

NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

HLENGIWE THUSI
NAME OF EAP

SIGNATURE OF EAP

13 November 2015
DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information