GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.**
4. **A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.**
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. 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.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
10. 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 application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the of the Environmental Affairs Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the of the Environmental Affairs Branch
Ground floor Diamond Building
11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

N/A

Is a closure plan applicable for this application and has it been included in this report? *N/A*

if not, state reasons for not including the closure plan.

The proposed cemetery expansion is expected to remain on site indefinitely. Should this change in future, then the direct impacts of decommissioning and closing the site will need to be assessed at the appropriate time.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? *Yes*

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person? *Yes*

If no, state reasons for not attaching the list.

N/A

Have State Departments including the competent authority commented? *No*

If no, why?

Draft BAR is still in commenting period

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

Basic Assessment for the Proposed Heidelberg Cemetery Expansion, Heidelberg, Sedibeng, Gauteng Province

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development		Other, specify	*Expansion*

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	*NO x*

If yes, describe the legislation and the Competent Authority administering such legislation

N/A.

If yes, have you applied for the authorisation(s)?	YES	*NO X*
If yes, have you received approval(s)? (attach in appropriate appendix)	YES	*NO X*

2. 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:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998 as amended).	*National & Provincial*	*1998*
NEMA - Activity 44 of Listing Notice 1 of the Environmental Impact Assessment Regulations, 2014 (as amended)	*National & Provincial*	*2014*
NEMA - Activity 27 of Listing Notice 1 of the Environmental Impact Assessment Regulations, 2014 (as amended)	*National & Provincial*	*2014*
NEMA - Activity 12 of Listing Notice 3 of the Environmental Impact Assessment Regulations, 2014 (as amended)	*National & Provincial*	*2014*
National Health Act, (Act 61 of 2003): Regulations relating to the management of human remains (GNR 363 of 2013).	*National & Provincial*	*2013*
The National Environmental Management: Biodiversity Act (NEMBA; Act No. 10 of 2004)	*National & Provincial*	*2004*
National List of Ecosystems that are Threatened and in need of Protection (2011)	*National & Provincial*	*2011*
Alien and Invasive Species Regulations (2020)	*National & Provincial*	*2020*
National Biodiversity Assessment (NBA)	*National & Provincial*	*2018*
National Water Act, 1998 (Act 36 of 1998)	*Provincial*	*1998*
National Water Act 36 of 1998 - Regulations and Notices - Government Notice R 810	*Provincial*	*2010*
Gauteng Conservation Plan (C-Plan; 2011)	*Provincial*	*2011*

Gauteng Development Guidelines for Ridges	*Provincial*	*(2001, updated 2004,2006,2019)*

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy of guideline	Description of compliance
National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998 as amended).	*An application for Environmental Authorisation for the proposed development is submitted in terms of GNR 326 of NEMA EIA Regulations, 7 April 2017, promulgated under NEMA.*
GNR 327 of NEMA EIA Regulations, 2014 as amended on 7 April 2017	*To promote integrated environmental management, contents of this BAR adhere to the requirements of the EIA Regulations. Appendix G includes the Environmental Management Programme that the project will adhere to if authorization is received.* *R. 983: Listing Notice 1:* *Activity 44:* *The expansion of cemeteries by 2500 square meters or more* *Activity 27:* *The clearance of 1ha or more, but less than 20 ha of* *indigenous vegetation, except where such clearance of indigenous vegetation is required for –* *i) the undertaking of a linear activity; or* *ii) maintenance purposes undertaken in accordance with the maintenance management plan* *R. 985: Listing Notice 3:* *Activity 12:* *The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.* *c. Gauteng:* *ii. Within Critical Biodiversity Areas or Ecological Supported Areas in the Gauteng Conservation Plan or bioregional plans*
National Health Act, (Act 61 of 2003): Regulations relating to the management of Human Remains, Chapter 5 (GNR 363 of 2013).	*The proposed cemetery expansion and existing cemetery complies with the requirements of Chapter 5 – Burial in Excavated Land, as set out in the regulations promulgated in GNR 363 of 2013.*
National Environmental Management: Biodiversity *Act 10 of 2004*	*The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004) as amended (NEMBA) including all the pertinent legislation published in terms of this act was considered in undertaking this Basic Assessment process. This included the determination and assessment of the fauna and flora prevailing in the*

	proposed project and the handling thereof in terms of NEMBA.
National Development Plan	*The South African Government through the Presidency has published a National Development Plan. The Plan aims to reduce poverty and inequality by 2030. The Plan has the target of developing people's capabilities to improve their lives through education and skills development, health care, better access to public transport, jobs, social protection, rising income, housing and basic services, and safety. It proposes to implement the following strategies to address the above goals:* *1. Creating jobs and improving livelihoods;* *2. Expanding infrastructure;* *3. Transition to a low-carbon economy;* *4. Transforming urban and rural spaces;* *5. Improving education and training;* *6. Providing quality health care;* *7. Fighting corruption and enhancing accountability;* *8. Transforming society and uniting the nation.* *The proposed project is therefore aligned with the goals of the NDP as it will create jobs and improve livelihoods.*
Gauteng Provincial Environmental Management Framework Revised in 2014	*The Gauteng Provincial Environmental Management Framework has been used to assist in the determination of land use zones and to guide sustainable land use management.*
Sedibeng District Municipality IDP and SDF	*The Spatial Development Framework (SDF) is the legislated component of the municipality's Integrated Development Plan (IDP) that prescribes development strategies and policy guidelines to restructure and reengineer the urban and rural form. The SDF is the municipality's long-term vision of what it wishes to achieve spatially, and within the IDP programmes and projects. The SDF should not be interpreted as a blueprint or master plan aimed at controlling physical development, but rather the framework giving structure to an area while allowing it to grow and adapt to changing circumstances. The proposed project has considered and is guided by the Regions' SDF and IDP priorities of the area.*

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the 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.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: 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.

Please describe the process followed to reach (decide on) the list of alternatives below

The proposed activity is to be the expansion of a pre-existing cemetery which is reaching capacity. As there is a need for additional burial space, and the land adjacent the current cemetery has been set aside for the purpose, there are no location alternatives available to be assessed. For the same reason, no activity alternative could be assessed as burial is a fundamental part of many cultures, and thus a cemetery is necessary to fulfil this requirement. However, taking specialist studies into account (such as the geotechnical study) layout alternatives could be considered to avoid unsuitable areas.

Provide a description of the alternatives considered

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, energy, operational or other(provide details of "other")	**Description**
1	*Proposal*	*The active Cemetery is gradually reaching its full capacity. According to burial records there are currently 1200 graveyards. The average rate of burials per year is 95, which may be increased due to the current pandemic as the cemetery is reaching its maximum capacity. Land availability for cemeteries in an increasingly urgent matter. Therefore, the Lesedi Local Municipality is proposing to extend the existing Heidelberg Cemetery onto the remaining of the cemetery property (Portion 5 of Langlaagte 186IR). This property is approximately 10 ha.*
2	*Property Alternative*	*No other property was assessed on the basis that the proposed development is an expansion of the existing cemetery. Therefore, the locality alternative will not be assessed.*
2	*Alternative 1 (Process Alternative)*	*Although there are other methods of disposal of human remains, such as cremation (the burning of bodies into ash) and mausoleums (burying above ground in a dedicated building), the act of traditional burial is deeply entrenched in many cultures and faiths within South Africa and remains the most commonly used method. It is thus essential to provide facilities that can fulfil this function. Therefore, no process alternatives will be considered for the expansion of the existing cemetery.* *It may be prudent to consider process alternatives (such as mausoleums) on portions of the available land that are not suited to traditional burial, for example due to high water table. However, due to economic constraints, these options are not viable at present.*
3	*Alternative 2 (Design or Layout Alternative)*	*The layout of this proposed development is to be determined by the available land, and the specialist studies conducted. The preferred alternative would be to utilise all available land (i.e. 10 ha). Alternative 2 will consider the proposed layout following the removal of areas identified as unsuitable through specialist studies.* *The layout of the proposed expansion may be considered as a mitigation measure to environmental sensitivities identified for the preferred alternative and will thus be assessed as part of that alternative.*
	Etc.	

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

The proposed activity is to be the expansion of a pre-existing cemetery which is reaching capacity. Traditional burial is a fundamental part of many South African cultures and faiths and is thus necessary from a social perspective. Therefore, no activity alternative could be assessed. As the land adjacent the current cemetery has been set aside for the purpose, there are no location alternatives available to be assessed. Taking specialist studies into account (such as the geotechnical study) layout alternatives can be assessed as mitigation measures of the preferred alternative to avoid unsuitable/sensitive areas.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity ***(Total environmental (landscaping, parking, etc.) and the building footprint)***	*10 ha*
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity	
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

	Size of the site/servitude:
Proposed activity	
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	Ha/m^2

5. SITE ACCESS

Proposal

	YES	NO
Does ready access to the site exist, or is access directly from an existing road?	*x*	
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1

	YES	NO
Does ready access to the site exist, or is access directly from an existing road?		
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

	YES	NO
Does ready access to the site exist, or is access directly from an existing road?		
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated *0* Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);

- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be 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 locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

7. 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 the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

Refer to Appendix H for site photographs

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 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 to be attached in the appropriate Appendix.

Refer to Appendix C for site photographs

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities

1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route **"insert No. of duplicates"** times

Instructions for completion of Section B for location/route alternatives

1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alterative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives **"insert No. of duplicates"** times (complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route [redacted] (complete only when appropriate for above)

Section B – Location/route Alternative No. [redacted] (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	*Portion 5 of Langlaagte 186IR*

2. ACTIVITY POSITION

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 decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
	-26.487500	*28.370278*

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity	[redacted]	[redacted]
• Middle point of the activity	[redacted]	[redacted]
• End point of the activity	[redacted]	[redacted]

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached [redacted]

The 21-digit Surveyor General code of each cadastral land parcel

PROPOSAL	T	0	I	R	0	0	0	0	0	0	0	0	0	1	8	6	0	0	0	5
ALT. 1																				
ALT. 2																				
etc.																				

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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
x						

4. LOCATION IN LANDSCAPE

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

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hill	River front
				x		

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

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

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)

YES	NO
	X

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): **Longitude (E):**

[redacted]

c) are any caves located within a 300m radius of the site(s)

YES	NO
	X

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): **Longitude (E):**

[redacted]

d) are any sinkholes located within a 300m radius of the site(s)

YES	NO
	X

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): **Longitude (E):**

[redacted]

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

NOTE: Due to the nature of the project (i.e. a cemetery) a geotechnical assessment was undertaken and can be found in Appendix F3.

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?	*YES* *X*	NO

Please note: The Department may request specialist input/studies in respect of the above.

***Note**: A specialist study for the soil, land use and land capability was conducted by Zimpanda Research Collaborative and presented under Appendix F1.*

The reports main conclusions include the following:

- *The dominant soils of the study area (Hutton/Ermelo) are considered ideal for cultivation, while other present soils (Glenrosa/Mispha/Witbank) are not suited to cultivation due to their erosive nature and poor hydraulic conductivity. Furthermore, as the development area is relatively small in agricultural terms, the extent of arable soils cannot be considered sufficient for either cultivated small commercial farming or commercial livestock farming.*
- *The proposed cemetery expansion will have limited cumulative impact as the area is already mostly urbanised and not presently under cultivation or commercial livestock farming.*
- *The proposed expansion is not considered as fatally flawed particularly due to the limited size of the proposed area (10ha) and that the high agricultural potential soils are already fragmented by the disturbed Witbank soils.*

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition *% = 75*	*Natural veld with scattered aliens* *% = 25*	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure confirm% =	Bare soil % =

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site	YES	*NO* *x*

If YES, specify and explain:

N/A.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	*YES* *X*	*NO*

If YES, specify and explain:

A provincially protected floral species, namely, Eulophia hians was identified within the 200m buffer. The locations of which were depicted in the specialist report. Although no individuals were identified in the project area, the current habitat is considered as suitable for both the protected floral species, and two faunal Species of Conservation Concern (SCC), and thus an additional walk over is suggested prior to any clearing of areas for burial sites.

Are there any special or sensitive habitats or other natural features present on the site?	*YES* *x*	NO

If YES, specify and explain:

As part of the terrestrial biodiversity assessment (Appendix F2) for the proposed cemetery expansion project, both a desktop and a field assessment were undertaken. From the desktop assessment, it was determined that part of the project area is located within a CBA: Important area, within the Critically Endangered (CR) Blesbokspruit Highveld Grassland Threatened Ecosystem, within a 200m Class 1 Ridge buffer and within areas indicated as remnant vegetation in terms of the NBA (2018). The majority of the project area is located within the Soweto Highveld Grassland vegetation type which is indicated to be Endangered (EN) in terms of the national vegetation classification (Mucina & Rutherford, 2006) and Vulnerable (VU) in terms of the NBA (2018).

The findings of the field assessment indicated that although portions have been disturbed to various degrees, the majority of the project area comprises largely intact Open Grassland vegetation where limited past disturbance has taken place, and which is considered to be of Medium-High ecological sensitivity. The proposed project will lead to the direct loss of floral species and associated habitat within the Open Grassland habitat unit.

No floral SCC have been recorded from the project area, and although certain floral SCC have an increased probability of occurrence, these species were not recorded during the field assessment. Prior to commencement of the proposed expansion, it is recommended that a final walkthrough of the project area takes place in order to confirm the absence of such species. No faunal SCC were recorded from the project area although several have a moderate likelihood of occurrence within the larger area, attributed with more diverse habitats to the north and east. Current impacts to vegetation communities coupled with the existing Heidelberg Cemetery and the project area's location within a peri-urban setting, reduces the likelihood of occurrence of SCC residing within the project area.

The proposed expansion of the Heidelberg Cemetery is unlikely to have a significant impact on terrestrial biodiversity within the region. This is attributed the relatively small development footprint, historic and current impacts to the vegetation ecology within portions of the project area, coupled with the fact that biodiversity within the footprint is not unique and is represented within the surrounding landscape. The expansion footprint is located within open and modified grasslands. As the central and northern portion is located within a designated CBA coupled with the highly sensitive Class 1 Ridge system to the north, it is imperative that mitigation measures and recommendations presented within this assessment (and other specialist studies) are implemented to ensure the continued functioning of these areas.

Potential impacts of the terrestrial ecology of the project area may be lowered or mitigated through careful project planning and implementing strict management measures throughout all project phases. The Class 1 Ridge located north of the project area within the 200m extended project area is considered to be of high ecological sensitivity and should be a strict No-Go area for any activities associated with the proposed project.

Was a specialist consulted to assist with completing this section	*YES X*	NO

If yes complete specialist details

Name of the specialist:	*Malachite Ecological Services - Dr Craig Widdows (Vegetation Specialist)*		
Qualification(s) of the specialist:	*PhD Ecology and SACNASP Reg . No. 117852*		
Postal address:			
Postal code:			
Telephone:		Cell:	*083 781 9725*
E-mail:	*craig@malachitesa.co.za*	Fax:	

Are any further specialist studies recommended by the specialist?	YES	*NO x*
If YES, specify:	*Although no further specialist studies are recommended, an additional site walkover by a suitably qualified individual – prior to clearing for burial sites, is recommended to identify any SCC that may be present.*	
If YES, is such a report(s) attached?	YES	*NO X*

If YES list the specialist reports attached below

N/A.

Signature of specialist:	*Refer to specialist report*	Date:	N/A.

Was a specialist consulted to assist with completing this section	YES X	NO

If yes complete specialist details	
Name of the specialist:	*Field and Form Landscape Science - Michelle Pretorius (Faunal Specialist)*
Qualification(s) of the specialist:	*BSc Honours and SACNASP Reg . No. 400003/15*
Postal address:	
Postal code:	
Telephone:	Cell: *0824427637*
E-mail: *Michelle@fieldandform.co.za*	Fax:

Are any further specialist studies recommended by the specialist?	YES	NO x
If YES, specify:	N/A	
If YES, is such a report(s) attached?	YES	NO X

If YES list the specialist reports attached below

N/A.

Signature of specialist: N/A Date: N/A

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport	23. Train station or shunting yard	24. Railway line	25. Major road (4 lanes or more)
26. Sewage treatment plant	27. Landfill or waste treatment site	28. Historical building	29. Graveyard	30. Archaeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam	34. Small Holdings	
Other land uses (describe):	35. Military base			

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

5	**1,25**	**5**	**35**	**35**
2,1	**1,25**	**5**	**29**	**1,35**
14	**1,25**	**SITE**	**1**	**1**
12	**12,25**	**1,25**	**1,25**	**1,25**
1	**12,25**	**8**	**8**	**8**

WEST EAST

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached	*YES*	NO
	x	

If yes indicate the type of reports below

Terrestrial Biodiversity Assessment
Heritage Impact Assessment
Soil and Land Capability
Geotechnical Assessment

Refer to Appendix F for copy of specialist reports.

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

Lesedi spans an area of ±1430km², which is largely rural, with two towns situated with within it, namely Heidelberg/Ratanda in the western part, and Devon Impumelelo on its eastern edge. The Lesedi Local municipality falls within the Sedibeng District Municipality.

9.1 Demographic Profile and Density

9.1.1. Size of population

In 2001 the population in Sedibeng District Municipality was recorded at 794 088 by StatsSA and the population has since increased by 122 396 in 2011, with the total population at that time being 916 484. The population growth rate from 2001 – 2011 was 1.43 percent per annum. Using the same growth rate, it can be assumed that the present population of Sedibeng exceeds 1 million. Approximately 75% of the population is resides in the urban areas of Heidelberg/Ratanda and Devon/Impumelelo, while the rest 25% is categorized as rural.

***Table 9.1:** Population as Per Municipal Area (Census,2011)*

Municipalities	***Total Population 2011***
Emfuleni Local Municipality	*721 663*
Lesedi Local Municipality	*99 520*
Midvaal Local Municipality	*95 301*

The racial composition of Lesedi is indicated in the table below and geographically the most dominant population group (i.e., Black Africans) is concentrated in areas such as Impumelelo and Ratanda. This clearly illustrates the entrenched racial divisions within the municipality. This also demonstrates the socio-economic geography of the municipality and the pattern of access to services.

***Table 9.2:** Population by Population Group (Census 2011)*

Population Group	***Total Population 2011***	***Percentage (%)***
Black Africans	*76 919*	*77.29*
Whites	*19 562*	*19.66*
Coloureds	*1 156*	*1.16*
Indians or Asians	*1 313*	*0.57*
Other	*570*	*0.57*
Total	*99 520*	*100*

From the table above, the largest population group is Black, this groups makes up 77.29% of the municipality's population. The second largest population group is Whites which accounts for 19.66% of the population while Coloureds and Asians population people account for 1% each of the total population.

Utilizing a comparative depiction as in the population composition the table below depicts the number of formal and informal dwellings within the municipality and their percentage distribution.

Table 9.3: *Types and Number of Dwellings (Census,2011)*

Types of Dwellings	No. of Dwellings	Percentage
House or brick structures on a separate stand/ on the farm	23 348	78%
Dwellings made up of traditional material, e.g., hut	119	0.4%
Flat or apartment in a block of flats	644	2.17%
Cluster House in a complex	305	1.103%
Townhouse (semi-detached house in a complex)	380	1.28%
Semi-detached house	44	0.15%
House/flat/room in backyard	489	1.65%
Informal Dwellings (shack; in backyard)	1 875	6.32%
Informal Dwellings (shack; not in backyard)	2 2021	6.81%
Room/ flatlet on a property e.g., granny flat	150	0.50%
Caravan/ tent	44	0.15%
Other	248	0.84
Total	29 668	100

Approximately 85.68% of the dwellings in the municipality consists of formal structures and 14.32% is mainly informal structures.

9.1.2 Population Age Distribution

The population of Lesedi Local Municipality (LLM) shows higher value in the younger age groups, this indicates rapid growth. Approximately 34% of the population is below the age of 20. This population tends to make different demands to the population, for example education, sport and recreation and other community facilities. There are also large number of people in the economically active age group (15-54) and this is important to keep the dependency ratios as low as possible. There is also a high number of people in the 65 year plus age groups which could point to a significant number of retired people settling in the area.

9.2 Socio Economic Trends

Decades of distorted development in the area has resulted in highly skewed distribution of income and wealth. The unemployment rate among the economically active is approximately 25,9% according to census 2011. This shows an improvement of 10% as compared to the 2001 unemployment statistics.

Type of sector	Employed	Unemployed	Discouraged work seekers Not econ	Not economically active	Age less than 15 yrs	N/A	Total
Formal sector	22 671	-	-	-	-	429	23 100
Informal sector	3 360	-	-	-	-	55	3 415
Private household	4 270	-	-	-	-	101	4 371
Unknown	1 218	-	-	-	-		-
Unspecified	-	-	-	-	-		-
N/A	-	11 042	2 889	22 805	-	30 656	67 393
Total	31 518	11 042	2 889	22 805	-	31 266	99 520

The LLM continues to provide relief to poverty-stricken households through its assistance to the poor scheme and indigent policy that provides its monthly contribution of 6 Kilolitres of water and 50 kilowatts of electricity respectively to all registered and approved indigent households.

The Gross Domestic Product (GDP) of LLM is mainly dependent on manufacturing (38%), community services (29.4%) and financial services (18.6%), and aggregately these three areas account 86.8% of LLM.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site-

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resource authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?	*YES*	NO
	x	

If YES, explain:

Yes, based on the archaeological and historical desktop study (Appendix F4), two heritage sites situated within or in close proximity to the footprint of the proposed cemetery extension (HCEM 1 and HCEM 2) and one heritage site (HCEM 3) situated in the existing cemetery north of the study area.

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

10.1 Introduction

An archaeological and historical desktop study was undertaken to provide a historical framework for the project area and surrounding landscape, refer to Chapter 5 in the Heritage Impact Assessment. This was augmented by an assessment of previous archaeological and heritage studies completed for the study area and surrounding landscape.

10.2 General Desktop Study

The desktop historical research has revealed that the general area around the proposed extension to the Heidelberg Municipal Cemetery contains archaeological resources (several Iron Age sites have been recorded in the vicinity) as well as graves and cemeteries and a few historical structures.

It is important to note that the desktop research has indicated that both the black and white concentration camps established by the British during the South African War were located in the general vicinity of the existing cemetery and proposed extension. Specifically, one source has indicated that approximately 30 graves from the black concentration camp were identified in the area around the Jacobs Street off-ramp at the intersection of the R42 road and N3 Highway. This reference does not indicate on which side of the N3 highway the graves are buried. Although no evidence for graves could be identified during the fieldwork undertaken within the study area, the fact that earthmoving activities did take place within the study area requires that the position of these graves must be confirmed by further desktop study work as well as fieldwork before construction commences. Please refer Chapter 8 for the required mitigation measures

10.3 Fieldwork

The fieldwork comprised an intensive field survey of the study area undertaken primarily by foot over the course of a single day by an experienced fieldwork team from PGS. The team consisted of Heidi James-Birkholtz (archaeologist) and Derrick James (fieldwork assistant) and the fieldwork was undertaken on Wednesday, 5 August 2020.

The intensive fieldwork resulted in the identification of two heritage sites situated within or in close proximity to the footprint of the proposed cemetery extension (HCEM 1 and HCEM 2) and one heritage site (HCEM 3) situated in the existing cemetery north of the study area.

10 4. General Recommendations

The following general recommendations are made

- *Due to the possibility of uncovering unmarked burials associated with the black concentration camp cemetery, as well as the possible risk that archaeological remains and artefacts associated with both the black and white concentration camps may be found in subterranean contexts within the study area, an archaeological monitoring process must be implemented during the earthwork and construction phases of the proposed extension of the Heidelberg Cemetery*

10.5 Conclusions

The unmitigated impact of the proposed development is expected to result in Moderate to Very Low negative impacts in terms of the identified heritage fabric of the study area. These impacts can be suitably mitigated to acceptable levels by way of a range of mitigation measures outlined in this report. As a result, on the condition that the recommendations made in this report are adhered to, no heritage reasons can be given for the development not to continue

Will any building or structure older than 60 years be affected in any way?	YES	*NO x*
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	*NO x*

If yes, please attached the comments from SAHRA in the appropriate Appendix

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

1. The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?	*YES* *x*	NO

If yes, has any comments been received from the local authority?	YES	*NO* *x*

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

N/A.

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

Still circulating for comments

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?	YES	*NO* *x*

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

N/A.

If "NO" briefly explain why no comments have been received

Still circulating for comments

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below:

- Appendix D1: Proof of site notice
- Appendix D2: written notice
- Appendix D3: Proof of advert

- Appendix D4: Interested and Affected Parties Database
- Appendix D5: Public Participation Plan
- Appendix D6: Background Information Document (BID)
- Appendix D6: Comments and Response Report (C&RR)

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alterative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives **"insert No. of duplicates"** times (complete only when appropriate)

Section D Alternative No. "insert alternative number" (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES	NO
	x	

If yes, what estimated quantity will be produced per month? *Uncertain m^3*

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

The solid waste from grave excavations such as overburden material will be used as backfilling in areas where necessary and will be used as a cover material at the registered landfill site (Devon Landfill). Any remaining waste will be disposed of at the Deveon landfill as well.

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

At the closest appropriate registered municipal waste disposal site (Devon Landfill) by the licensed waste disposal contractor to be appointed by the site contractor.

Will the activity produce solid waste during its operational phase?	YES	NO
	x	

If yes, what estimated quantity will be produced per month? *~0.5m3*

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

At the closest appropriate registered municipal waste disposal site (Devon Landfill) by the licensed waste disposal contractor to be appointed by the site contractor.

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?	YES	NO
	x	

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

Solid waste will enter municipal waste stream.

Note: 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, 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 relevant legislation?	YES	*NO*
		x

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	*NO*
		x

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.

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

None. But separate recycling bins can be implemented if municipal services allow the pick-up of recycled material.

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	*NO x*
If yes, what estimated quantity will be produced per month?	*N/A*	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?	YES	NO X

Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes	*NO x*
If yes, what estimated quantity will be produced per month?	*N/A*	

If yes describe the nature of the effluent and how it will be disposed.

N/A.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	*NO x*

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:

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	*YES x*	*NO*
If yes, what estimated quantity will be produced per month?	*30 000 litres*	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	*YES x*	*NO*

Will the activity produce any effluent that will be treated and/or disposed of on site?	*YES*	*NO x*

If yes describe how it will be treated and disposed off.

N/A

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	*YES x*	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	*NO x*

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

During burials: Dust from vehicles travelling along the access and internal roads, exhaust emissions from excavating vehicles and other vehicles travelling to the cemetery as well as potential dust from open grave sites.

During general maintenance and operation of cemetery: Dust from vehicles travelling along the access and internal roads, exhaust emissions from vehicles travelling to the cemetery.

2. WATER USE

Indicate the source(s) of water that will be used for the activity

Municipal X	Directly from water board	groundwater	river, stream, dam or lake	other	*the activity will not use water x*

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: 0 litres

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?	YES	NO x

If yes, list the permits required

N/A.

If yes, have you applied for the water use permit(s)?	YES	NO x
If yes, have you received approval(s)? (attached in appropriate appendix)	YES	NO x

3. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source

Municipality or Eskom

If power supply is not available, where will power be sourced from?

N/A

4. ENERGY EFFICIENCY

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

There are limited means to implement energy efficiency measures for a project of this nature. The services are already in place and minimal electricity is required, mainly in the form of lighting. Lesedi will investigate the use of low use electricity flood lighting (such as LEDs) for all new lighting requirements and will convert current lighting where possible. This will promote energy efficiency.

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

Services are already in place.

SECTION E: 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 as well as the impacts of not implementing the activity (Section 24(4)(b)(i).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

No issues have been raised thus far. Any comments/issues from the draft report phase will be included in the in the final BAr.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)
(A full response must be provided in the Comments and Response Report that must be attached to this report):

No responses have been necessary thus far. Any comments and responses will be included in the final BAr.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

2.1 Environmental Impact Assessment

The proposed activity is likely to result in a variety of positive and negative impacts. Additionally, the proposed project could potentially result in collective and long-term impacts known as cumulative impacts. A cumulative impact is the impact of an activity that, in itself, may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area. This section aims to assess the potentially significant impacts (either negative/positive and/or cumulative) which may occur as a result of the proposed activity, as were identified during the BA phase. Furthermore, it describes the methodology to be utilised in the qualitative assessment of the identified impacts.

The identified impacts, including those identified and assessed through the specialist studies, have been reviewed and included (where relevant) in this BA. Where negative impacts are identified, mitigation measures to reduce impacts, will be considered and advised. The qualitative assessment of the identified impacts includes an indication of the potential success of the mitigation measures in reducing the overall significance of the impact.

2.2 Methodology of Assessing Impacts

Impacts of the proposed project on the relevant environmental sensitivities, where relevant, have been quantified using the impact rating methodology detailed in Table 2.1 below. This impact rating methodology assists in evaluating the overall effect of the proposed development on the environment. The determination of the effect of an environmental impact on an environmental parameter have been determined through a systematic analysis of the various components of each impact. The evaluation of predicted impacts has been undertaken through an assessment of the significance of the impacts. Where required, the proposed mitigation measure have been detailed.

2.2.1 Determining Significance of Impacts

Table 2.1 below provides an explanation of the parameters used to determine the significance of an impact, as well as what "significance" means in the context of this impact assessment. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Table 2.1: Description of parameters used to establish impact significance

Status of Impact

+: Positive (A benefit to the receiving environment) *N: Neutral (No cost or benefit to the receiving environment)* *-: Negative (A cost to the receiving environment)*	
Extent = E (The area over which the proposed impact will be experienced). *5: International* *4: National* *3: Regional (<100km from site)* *2: Local (<10km from site)* *1: Site Specific*	*Reversibility = R (The degree to which the proposed impact can be reversed upon completion of the proposed development/ activity).* *4: Irreversible* *3: Barely Reversible* *2: Partly Reversible* *1: Completely Reversible*
Magnitude = M (The severity of the proposed development/activity). *5: Very high/ don't know* *4: High* *3: Moderate* *2: Low* *1: Minor* *0: Not applicable/none/negligible*	*Duration = D (The timeframe for which the proposed impact will be experienced).* *5: Permanent* *4: Long-term (ceases with the operational life)* *3: Medium-term (5-15 years)* *2: Short-term (0-5 years)* *1: Immediate* *0: Not applicable/none/negligible*
Probability = P (The likelihood / degree of certainty of the proposed impact occurring). *5: Definite/don't know* *4: Highly probable* *3: Medium probability* *2: Low probability* *1: Improbable*	*Cumulative Effect = C (The impact of the proposed development/ activity on the environmental parameter being assessed when added to other existing or potential impacts).* *4: High Cumulative Impact* *3: Medium Cumulative Impact* *2: Low Cumulative Impact* *1: No Cumulative Impact* *0: Not applicable*
Loss of Resources = L (The degree to which a given resource will be lost as a result of the proposed development / activity.) *4: Complete Loss of Resources* *3: Intermediate Loss of Resources* *2: Low loss of resources* *1: No Loss of resources*	
Significance will be determined through the quantitative analysis of impacts. Significance will be determined through a synthesis of the assessed impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. This describes the significance of the impact on the environmental parameter. The calculation of the significance of an impact uses the following formula: *(Extent + probability + reversibility + loss of resources+ duration + cumulative effect) x magnitude/intensity.* *The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.*	

Significance	*Environmental Significance Points*	*Colour Code*
High (positive)	*>90*	*H*
Medium (positive)	*30 to 90*	*M*

Low (positive)	*<30*	*L*
Neutral	*0*	*N*
Low (negative)	*<-30*	*L*
Medium (negative)	*-30 to -90*	*M*
High (negative)	*>-90*	*H*

2.2.2. Impact Rating System

The impact assessment must take account of the nature, scale and duration of effects on the environment and whether such effects are positive (beneficial) or negative (detrimental). The rating system is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact. Impacts have been consolidated into one rating. An example of the impact assessment table used to assess the environmental impact associated with the proposed project are detailed below in Table 2.2

Table 2.2: Example of impact assessment table

IMPACT RATING TABLE FORMAT

Item	*Description*	*Pre-mitigation impact rating*	*Post mitigation impact rating*
Environmental Parameter	*Description of environmental impact*		
Extent (E)	*Description of the area over which the proposed impact will be experienced.*	*2*	*1*
Probability (P)	*Description of the likelihood/degree of certainty of the proposed impact occurring.*	*4*	*2*
Reversibility (R)	*Description of the degree to which the proposed impact can be revered upon completion of the proposed development / activity.*	*2*	*1*
Loss of Resources (L)	*Description of the degree to which a given resource will be lost as a result of the proposed development / activity.*	*4*	*1*
Duration (D)	*Description of the time frame for which the proposed impact will be experienced.*	*5*	*0*
Cumulative Effect (C)	*Description of the impact of the proposed development / activity on the environmental parameter being assessed when added to other existing or potential impacts.*	*4*	*0*
Magnitude or Intensity (M)	*Description of the severity of the proposed development / activity.*	*5*	*2*
Environmental Significance Points	*Description of the importance of the proposed impact which indicates the Mitigation required.*	*- 105 High negative*	*+ 10 Low positive*
Mitigation Measures	*Detail the mitigation measures required to reduce the impacts that will arise from the proposed development / activity. The measures mentioned will be detailed in the EMPR as well.*		

Heidelburg Cemetery Environmental Impact Assessment Tables is also presented in Appendix I.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

NOTE: *Cemeteries are unique in terms of activity phases as they do not fit the traditional Construction, Operation and Decommissioning model. The phases are interlinked to a point where they cannot be clearly delineated. Activities at the proposed cemetery expansion will include grave excavating and grave and facility maintenance. These activities constitute the main function/operation of a cemetery and thus fall within the ambit of operational activities. Therefore, there is no "construction phase" in the traditional sense. A cemetery essentially only has an operational phase, which would encompass the stipulated activities. These activities will be taking place throughout the life of the cemetery and are thus viewed as cemetery functioning/operation. Furthermore, there is no decommissioning phase as a cemetery will remain as such in perpetuity. Active burials will be taking place at the same time as maintenance of existing grave sites, up until the cemetery reaches capacity. At this point, only maintenance will continue in perpetuity. The cemetery cannot change land-use, and must remain open and accessible to the public to pay their respects to the deceased. The cemetery will then become a heritage site and thus remain as such in perpetuity or until such time as legislation is altered.*

As such, only assessment of the operational phase has been compiled. Refer to ***Appendix I*** *for assessment of significance of all impacts for the various activities taking place on site.*

Proposal

Potential impacts:	**Significance rating of impacts (positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**

Alternative 1 *(REPEAT THIS TABLE FOR EACH ALTERNATIVE)*

Potential impacts:	**Significance rating of impacts (positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**

No Go

Potential impacts:	**Significance rating of impacts (positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- *Geotechnical Investigation*

- *Terrestrial Biodiversity Assessment*
- *Soil and Land Capability*
- *Heritage Impact Assessment*

Refer to Appendix F for copy of specialist reports.

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

- *Terrestrial Biodiversity Assessment*
  - *Modelled biodiversity databases have accuracy limitations and as a result, must be ground-truthed for verification. The information obtained from various databases which are considered to be useful as background to the assessment, and the data were also used to inform the field assessment, specifically where areas of increased conservation importance are indicated. All databases consulted were found to be mostly reliable and corresponded with reasonable accuracy with the field observations;*
  - *The emphasis of the field assessment was on the expansion footprint area (10ha in extent) while broader assessment was undertaken within the 200m extended project area;*
  - *No detailed project layout, or development alternatives applicable to the biodiversity assessment, were available at the time of the field assessment;*
  - *The results of the field assessment are based on a single site assessment, undertaken over a period of one day on 6 October 2020 in line with project timeframes. The assessment period falls outside of the assessment period between November and April recommended by the Gauteng Department of Agriculture and Rural Development (GDARD; 2014). The area had however, received the first summer rains prior to the field assessment taking place and floral species identification was possible;*
  - *The northern portion of the project area, bordering the existing Heidelberg Cemetery had burned prior to the field assessment, which hampered grass species identification in this area. The grassland in south of the project area was not affected, and grasses could be identified in this area;*
  - *Vegetation associated with the existing Heidelberg Cemetery to the northeast of the project area, within 200m thereof is dominated by ornamental species, of which the majority are alien. A detailed assessment of these species was not undertaken as part of the current assessment;*
  - *In order to obtain a comprehensive understanding of the dynamics and diversity of the biota on a site, biodiversity studies should ideally include investigations through the different seasons of the year coupled with extensive sampling of the area. As the current assessment relied on information gained during a single season site survey and a field assessment of limited duration, available desktop information for the area, as well as professional judgment and experience were also considered;*
  - *Due to the complexity of natural ecosystems and seasonality of species, it is possible that some aspects pertaining to terrestrial biodiversity, including certain floral species, may have been overlooked during the field assessment. All effort was however made by the consultants to gather and convey accurate information, although the possibility exists that additional information with regard to the project area may come to light at a later stage. It is also important to note that the majority of floral Species of Conservation Concern (SCC) are also known to be extremely seasonal and only flower during specific periods of the year. Prior information on potential threatened flora that may occur in the project area was however known and special emphasis was placed in searching for such species during the field assessment;*
  - *Faunal surveys should ideally be conducted over varying seasons in order to obtain a comprehensive species list due to seasonal activity variations of faunal species. Moreover, as the majority of faunal species are secretive, the availability and suitability of foraging and breeding habitats identified during the field assessment was used in conjunction with distributional data to determine the likelihood of occurrence of faunal SCC within the project area; and*
  - *Hand-held Garmin eTrex 20x devices were used during the field assessment and this has an accuracy of 3-6m. As a result, potential georeferencing errors, including such limitations in Global Positioning System (GPS) accuracy may result in slight discrepancies in the maps.*

- *Heritage Impact Assessment assumptions and limitations*
    - *Not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realize that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites, as well as the density of vegetation cover found in some areas. As such, should any heritage features and/objects not included in the present study be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way, until such time that the heritage specialist has been able to assess as to the significance of the site (or material) in question. This applies to graves and cemeteries as well. If any graves or burial places are identified or exposed during the development, the procedures and requirements pertaining to graves and burials will apply; and*
    - *The study area boundaries depicted in this report were provided by the client. As a result, these were the areas assessed during the fieldwork. Should any additional development footprints located outside of these study area boundaries be required, such additional areas will have to be assessed in the field by an experienced archaeologist/heritage specialist before construction commences.*

- *Soil and Land Capability*
    - *The soil, land use, land capability and agricultural potential assessment is confined to the proposed cemetery and does not include the neighbouring and adjacent properties;*
    - *Land Capability was classified according to current soil restrictions, with respect to prevailing climatic conditions on site; however, it is virtually impossible to achieve 100% purity in soil mapping, the delineated soil map units could include other soil type(s) as the boundaries between the mapped soils are not absolute but rather form a continuum and gradually change from one type to another. Soil mapping and the findings of this assessment were therefore inferred from extrapolations from individual observation points; and*
    - *Soil fertility status was not considered a limitation, seeing as inherent nutrient deficiencies and/or toxicities would be rectified by appropriate liming and/or fertilization prior to cultivation.*

- *Geotechnical Assessment*
    - *No water was intersected in any of the trial pits. The depth to the water table is therefore unknown. The requirement that the basal buffer zone of 2.5m between grave and water table is met but it should be noted that this investigation was carried out during winter, and the water table may fluctuate in rainy seasons. Possibility of perched water table at a depth of 2.20m is expected; and*
    - *Mottled soils noted in TP4, TP8, TP10, TP11 and TP12 (depth range of 2.20m to 3.34m below natural ground level) suggests long term seasonal water table fluctuations in this area. The area likely to be affected by seasonal groundwater table conditions is indicated in "blue" on Figure 2-1. The water table fluctuation is below the burial depth of 1.80m below natural ground level, starting from a depth of 2.20m. No presence of water table fluctuation was noted above 2.20m below natural ground level. The area of the site where mottles were observed, is classified as marginal for a cemetery development.*

***Figure 2.1**: Area likely to be affected by fluctuating water table*

3. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

NOTE: The proposed cemetery expansion is expected to remain on site indefinitely. Should this change in future, then the direct impacts of decommissioning and closing the site will need to be assessed at the appropriate time.

Proposal

Potential impacts:	**Significance rating of impacts(positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**
[redacted]				

Alternative 1

Potential impacts:	**Significance rating of impacts(positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**
[redacted]				

Alternative 2

Potential impacts:	**Significance rating of**	**Proposed mitigation:**	**Significance rating of**	**Risk of the impact** and

	impacts (positive or negative):		**impacts after mitigation:**	**mitigation not being implemented**

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

N/A.

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

N/A.

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Cumulative impacts are those impacts from the project combined with the impacts from past, existing and reasonably foreseeable future projects that would affect the same biodiversity or natural resources (e.g., a number of development projects in the same catchment or ecosystem type collectively affecting water quality or flow or impacting the same endemic species).

- *Terrestrial Biodiversity Impact*

The majority of the project area is located within a designated CBA: Important area, with the extent of the project area located with the Blesbokspruit highveld Grassland Threatened Ecosystem (CR). A portion of the project area is also located within the 200m ecologically sensitive buffer associated with the Class 1 Ridge to the north. The loss of habitat within the CBA would potentially result in a loss of local biodiversity as well as a potential loss in ecosystem function within the CBA, with negative consequences for biodiversity maintenance in the long-term. Habitat loss due to the cemetery expansion project would result in cumulative impacts on available habitat and reduce the effective functioning of the CBA. This would also increase habitat fragmentation and potentially result in a loss of broad-scale landscape connectivity.

Although some current and historical disturbances have occurred within the project area, the majority of the project area comprises Open Grassland that has not been significantly disturbed, and therefore, any remaining tracts of intact grassland (such as towards the east of project area) and the rocky ridge to the north are likely to become increasingly important for local biodiversity as developments continue to expand. The existing Heidelberg Cemetery is partially located within the Class 1 Ridge boundary and located entirely within the 200m Class 1 Ridge buffer. Further encroachment into this buffer zone by the proposed expansion activities, will put the ridge at further risk of degradation and loss of ecological function. Therefore, The habitat unit should be designated as a strict No-Go area for personnel and vehicles during all development phases. Careful planning and consideration of edge effects should take place within the 200m buffer zone, if expansion activities within this buffer zone are unavoidable.

Although the expansion of the cemetery will have a minor cumulative effect in this regard, the successful implementation of mitigation measures will reduce the impacts associated with the project. These mitigations would include not developing on the northern portion of the proposed expansion where the site falls within the 200m buffer of the Class 1 Ridge.

- *Soil and Land Capability Impact*

The proposed cemetery is surrounded by urban residential areas as well as a commercial shopping centre and is isolated from the surrounding agricultural activities in the area. The development of this area is not anticipated to cause a significant cumulative impact since this area is not under current cultivation and the extent of the area is small. The cumulative impact on the local and regional scale is considered to medium-low as the dominant soils are sensitive from a soil and land capability point of view. However, the extent of the impact and

the location in the socio-cultural landscape limits the impact significance. In addition, these high Agricultural potential soils are also fragmented by the Witbank soils.

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal 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.

Proposal

The project proposes that the existing Heidelberg cemetery is expanded due to the current cemetery reaching capacity. There is currently approximately 10 ha of municipally owned and zoned land available for expansion adjacent to the existing cemetery. Cemeteries are unique in terms of activity phases as they do not fit the traditional Construction, Operation and Decommissioning model. The phases are interlinked to a point where they cannot be clearly defined and therefore cannot be rated for significance separately. Activities at the proposed cemetery expansion will include both construction type activities (such as fencing and grave excavating) and operational type activities such as maintenance of existing graves and cemetery facilities. These activities will be taking place simultaneously throughout the life of the cemetery and are thus viewed as cemetery functioning.

Impacts associated with these activities are expected to be localised within the vicinity of the site, and generally not cumulative. Many of the impacts will be experience throughout the life of the cemetery due to the dynamic nature of cemetery activities (continual burials) and will be in line with the impacts experienced by the existing cemetery.

As such, the proposed cemetery expansion is expected to have some impacts upon the receiving environment, however, the successful implementation of relevant management procedures and mitigation measures, as described in this Basic Assessment report, the specialist assessments and the Environmental Management Programme, will ensure that the impacts of the proposed expansion will be minimal. Significance ratings following mitigation is anticipated to be reduced to a "Low" rating for most activities, barring soils contamination and waste, which remain medium significance.

During the rating and ranking procedure of possible impacts, only the biodiversity impacts within the 200 m buffer of the Class 1 Ridge indicated a potential no-go area for development. This same area falls within an area of shallow bedrock, which would increase the risk of groundwater contamination. This area should therefore be excluded from the overall development area to preserve the biodiversity of the Ridge and groundwater resources.

None of the other identified impacts had a "no-go" implication for aspects of the project and all impacts could be successfully countered by appropriate mitigation.

The strong links between society and burials ensures that development will impart positive social impacts through the provision of a specified and dignified area for burials and mourning to take place.

Alternative 1

N/A

Alternative 2

N/A

No-go (compulsory)

If the proposed activity were to not go ahead, there would be both positive and negative impacts resulting from this decision. The positive impacts would be limited to the reduction of potential negative environmental impacts associated with the functioning of the expanded cemetery. However, without the proposed expansion, the current cemetery will reach capacity within a year and there will be no local facility for the deceased of the area to be buried. This

will create further strain on the state mandate to provide areas for burial and require locals to seek burial sites further afield. This will result in additional costs and impact on socio-economically.

As such, the no-go alternative is not viewed as being a preferred or reasonable alternative.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

A summary of the identified impacts and their significance rating both prior to and post mitigation is included in the table below. From the table below, it is evident that although the proposed expansion will impart some negative impacts on the receiving environment. The majority of the impacts will be of low significance post mitigation. Due to the unavoidable nature of corpse decomposition, and the accumulation of domestic waste, they remain impacts of medium significance post mitigation during the life of the facility. However, the successful implementation of mitigation measures significantly reduces the effect of these impacts.

Mitigations to further reduce these impacts would include:

- *Waste*
  - *Reducing volumes of waste is a priority;*
  - *If reduction is not feasible; the maximum amount of waste is to be recycled and*
  - *Waste that cannot be recycled is to be disposed of in the most environmentally responsible manner as possible.*
- *Soil Contamination*
  - *Burials must be in accordance with Chapter 5 of the National Health Act (Act 61 of 2003) – Regulations Relating to the Management of Human Remains (GNR 363 of 2013)*

In terms of the potential impacts on biodiversity, although the overall rating is medium and reduced to low post mitigation, there is one section of the site where the potential impact could be considered as high. This is the northern area of the proposed site which falls within the Class 1 ridge 200 m buffer. This area should be avoided during development to help preserve the fragile ridge ecosystem.

With the implementation of the provided mitigation measures, it is believed that the impacts can be managed to acceptable levels. From the various specialist assessments conducted it is clear that there are no impacts that are considered detrimental to the environment requiring the prohibition of the project from continuing. None of the impacts that were assessed after implementation of the mitigation measures are considered 'high negative'; negative rating ranged from medium negative to low negative. Majority of the impacts with mitigation obtained a low negative rating should they occur. Long-term impacts relate to heritage resources, soil resources, biodiversity and groundwater, which can be managed with the implementation of mitigation measures provided in the EMP.

Table 6.1: *Impact summary for the cemetery expansion*

Assessed Impact	Rating before Mitigation	Rating Post-Mitigation
Soil erosion	*Medium*	*Low*
Soil contamination	*Medium*	*Medium*
Loss of agricultural land capability	*Medium*	*Low*
Biodiversity	*Medium*	*Low*
Surface and Groundwater	*Medium*	*Low*
Heritage	*Medium*	*Low*
Waste	*Medium*	*Medium*
Socio-economic	*Medium (positive)*	*N/A*

For alternative:

N/A

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The identification and description of the potential or anticipated impacts was the result of an assessment of the relevant environmental conditions and the issues identified during the public participation process, terrain assessments, specialist studies and desk research. An objective rating of the significance of the potential impacts resultant of the proposed cemetery development revealed that impacts were predominantly medium(negative) to low (negative) and with one moderate (positive) impact anticipated (social impact). This means that it is possible for the project to proceed, providing that the impact mitigation measures provided are strictly implemented in the design, construction and operational phases of the development.

Taking the assessment of potential impacts into account, the process revealed that no fatal environmental flaws were identified that should prevent the approval of the proposed cemetery expansion. In summary the main environmental aspects that need to be addressed during the project implementation are:

- *Design phase – the proposed development position layout should be well thought out and the 2.77 hectares that has been identified as unsuitable by the specialists should be omitted from the layout plan.*
- *Cemetery operation – addressing the general heritage, biodiversity, loss of agricultural land capability, waste management, soil erosional, groundwater and alien invasive management.*

The "no-go" would result in negative social impacts around the provision of burial services to a community and is thus not considered a viable option, particularly as the current cemetery is reaching capacity.

The ultimate approval of this project lies with GDARD and it is trusted that the environmental impact assessment report gives an objective and balanced view of the anticipated environmental impacts associated with the proposed development and that the environmental management program attached herewith will adequately mitigate the impacts.

7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

The Spatial Development Framework (SDF) is the legislated component of the municipality's Integrated Development Plan (IDP) that prescribes development strategies and policy guidelines to restructure and reengineer the urban and rural form. The Municipal Spatial Development Framework is a visual representation of the 'development vision' and 'interventions' required to achieve the development objectives of the Growth and Development Strategy (GDS) and Integrated Development Plan (IDP) of the Sedibeng Municipality. Further to providing the objectives reflecting the desired urban form of Sedibeng, the Spatial Development Framework (see Figure below) also puts forward policies and strategies for achieving these objectives.

According to the Sedibeng district municipality environmental sensitivity map, the site for the proposed project falls within an important area as per the C-Plan categories. These areas are habitats for certain environmental important species and are widely spread throughout the district, they are most found within the Midvaaal and Lesedi region.

The use of the tool guided the need for a specialist assessment of the biodiversity of the area.

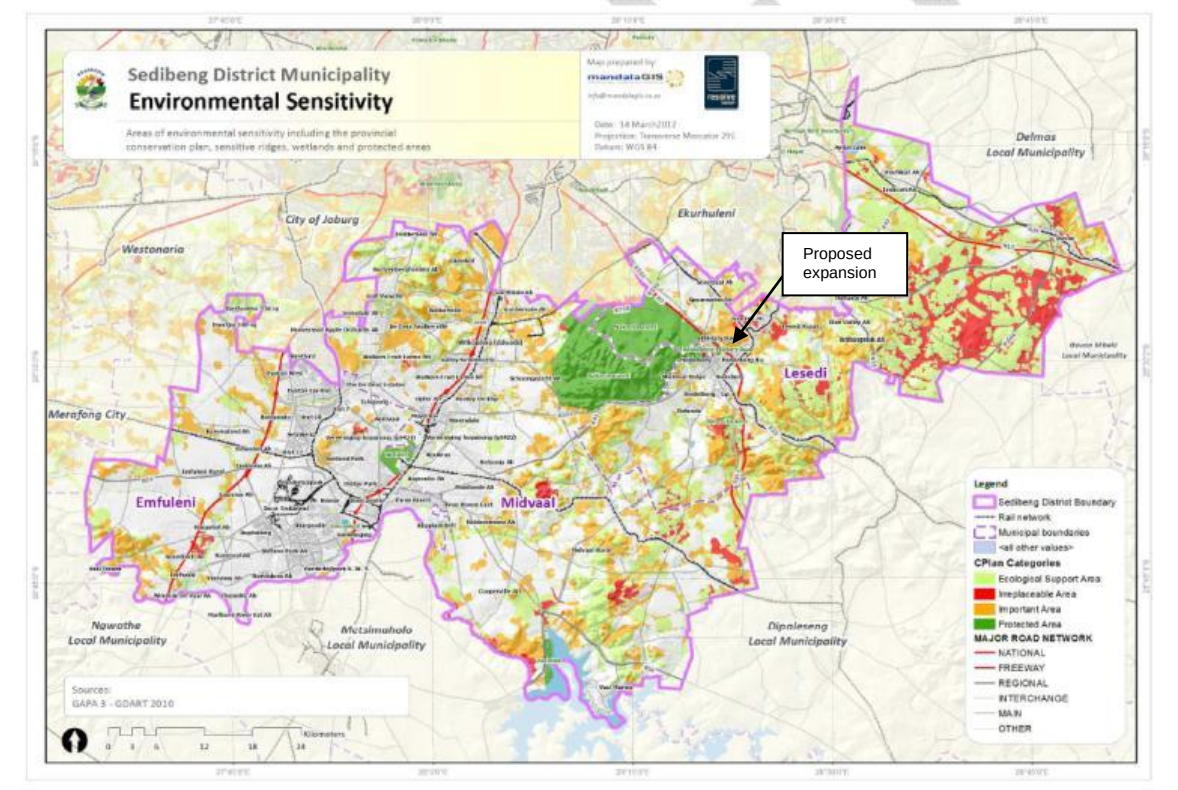

***Figure 7.1**: Sedibeng District Municipality Environmental sensitivity map*

The specialist assessment determined that the project area is located within a CBA: Important area, within the Critically Endangered (CR) Blesbokspruit Highveld Grassland Threatened Ecosystem, within a 200m Class 1 Ridge buffer and within areas indicated as remnant vegetation in terms of the NBA (2018). The majority of the project area is located within the Soweto Highveld Grassland vegetation type which is indicated to be Endangered (EN) in terms of the national vegetation classification (Mucina & Rutherford, 2006) and Vulnerable (VU) in terms of the NBA (2018).

The proposed expansion of the Heidelberg Cemetery is unlikely to have a significant impact on terrestrial biodiversity within the region. This is attributed the relatively small development footprint, historic and current impacts to the vegetation ecology within portions of the project area, coupled with the fact that biodiversity within the footprint is not unique and is represented within the surrounding landscape. The expansion footprint is located within open and modified grasslands. As

the central and northern portion is located within a designated CBA coupled with the highly sensitive Class 1 Ridge system to the north, it is imperative that mitigation measures and recommendations presented within the Terrestrial Biodiversity Assessment (and other specialist studies) are implemented to ensure the continued functioning of these areas.

Potential impacts of the terrestrial ecology of the project area may be lowered or mitigated through careful project planning and implementing strict management measures throughout all project phases. The Class 1 Ridge located north of the project area within the 200m extended project area is considered to be of high ecological sensitivity and should be a strict No-Go. area for any activities associated with the proposed project

8. RECOMMENDATION OF THE 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 as bound by professional ethical standards and the code of conduct of EAPASA).

YES	NO
x	

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

N/A

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:

The following conditions should be implemented to ensure the proposed expansion activity has a limited effect on the receiving environment.

- *All mitigation measures as detailed in this report are to form an extension of the EA, thus ensuring applicant/operator adherence.*
- *The specific conditions as detailed in the EA are to be enforced on site.*
- *The Environmental Management Programme is to become a binding document on site during the functioning of the cemetery. The EMP is binding to all contractors associated with Lesedi Municipality as well as anyone entering the facility.*
- *An external Environmental Control Officer is to be appointed to audit the project at various relevant stages during the operational phase.*
- *All expansion activities must be monitored to ensure that the footprint areas do not exceed approved/authorised areas*
- *Natural habitats surrounding the project area must be inspected to ensure that these remain in a natural state and that no clearing, dumping or excavations that may obstruct faunal movement or lead to disturbance of habitat takes place*
- *Should any faunal SCC be noted within the project area, the relevant authorities must be notified. Input into the possible relocation of such species must be provided by a suitably qualified ecologist.*
- *Any emergent alien invasive species must be eradicated immediately.*
- *Any soil erosion noted must be rectified to prevent further erosion.*
- *It must be ensured that no alien ornamental species have been or are being introduced to the cemetery expansion area as these can be a threat to local biodiversity.*
- *Biodiversity education and awareness programmes must be implemented. This programme should form part of the staff induction in which topics such the necessary procedures for working in close proximity to sensitive habitats (such as the ridge habitat) are outlined, as well as the identification of faunal or floral SCCs and alien species.*
- *Should any floral SCC, protected or TOPS-listed species be encountered within the final development footprint, the necessary permits or licences have to be obtained from the relevant authorities prior to proceeding with area clearance. Rescue and relocation of such species may be recommended.*

- *No indiscriminate fires should be allowed within the development footprint areas*
- *A final walkthrough of the authorised project area to confirm the absence SCC or protected species should be a condition to the Environmental authorisation as recommend by the terrestrial biodiversity specialist*
- *The Class 1 Ridge buffer in the northern part of the project area must be designated as a no-development zone to help preserve the biodiversity of the Ridge.*
- *For the purpose of grave stability, grave sites must not be left open for extended periods to prevent sudden sidewall collapse.*
- *The area identified in the geotechnical report as marginal for grave placement due to a potential perched water table, should be reinvestigated during the rainy season to establish the depth to the water table prior to utilising that area for burials.*
- *Burials must be in accordance with Chapter 5 of the National Health Act (Act 61 of 2003) – Regulations Relating to the Management of Human Remains (GNR 363 of 2013)*

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT (as per notice 792 of 2012, or the updated version of this guideline)

Gauteng province has both the largest and fastest growing population, according to census 2011, with 12.2 million people counted in 2011 – an increase of 33.7% over 2001, which is more than double the national average increase. The summarised version of the census information provided on the South African Institute of Race Relations website indicates that the projected increase in population would result in an increase need for facilities such as cemeteries. Pandemics such as COVID 19 further exacerbate the need for defined areas of burial.

The act of burying the deceased is deeply entrenched in the human culture and traditions. Cemeteries provide a place for mourner to mourn their lost ones at an identified place. Unfortunately, due to the increase in urban population and the finite size of space available for burials, cemeteries are fast running out of space. As such, there is constant pressure for areas where the deceased may be laid to rest in a dignified manner. The Heidelberg Cemetery falls within this category and is reaching its current capacity for burials. Thus, the need to expand the cemetery is evident and imperative.

The National Environmental Management Act defines sustainable development as the integration of environmental, economic and social factors into planning, implementation and decision making so as to ensure that the development serves present and future generations. The expansion of the cemetery falls within the ambit of sustainable development by providing for the social and cultural needs within the local community. The available, municipally-zoned, land surrounding the Heidelberg Cemetery provides an opportunity for the cemetery to expand at the current site, affording the LLM the additional burial space it requires to meet the demands of the area. As the area is owned by the LLM and is zoned "municipal", the proposed activity is in with existing land use rights and falls within the local Spatial Development Framework, further promoting the principals of sustainable development. Furthermore, the implementation of the Environmental Management Programme will ensure that the proposed development is managed appropriately and sustainably though all phases of the development.

The activity will also contribute on a very marginal scale towards the National Development Plan for 2030 considering the magnitude/scale of the project. There will be a generation of minimal number of jobs, which aligns with the National Development Plan to reduce unemployment. The operational phase will see the continuation of employment for the cemetery, specifically for municipal employees. In terms of the Regional Spatial Development Framework, the site is accessible to The N3 south corridor, which links Johannesburg, Ekurhuleni and Heidelberg, and thus may service and area greater than Heidelberg alone.

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED
(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

Due to the nature of a cemetery, there is no future prospect of closure/decommissioning and thus the once the construction phase (related to each excavated grave) is complete (i.e. the cemetery has reached capacity), the operational phase of maintaining the cemetery will continue in perpetuity.

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) (must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers "Yes" to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached	*Yes*

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

- Appendix B: Photographs
- Appendix C: Facility illustration(s)
- Appendix D: Public participation information
    - Appendix D1: Proof of site notice
    - Appendix D2: written notice
    - Appendix D3: Proof of advert
    - Appendix D4: Interested and Affected Parties Database
    - Appendix D5: Public Participation Plan
    - Appendix D6: Background Information Document (BID)
    - Appendix D6: Comments and Response Report (C&RR)
- Appendix E: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information (***SAHRA to be included in the PPP***)
- Appendix F: Specialist reports
    - Appendix F1:Soil, Land, Use and Land Capability Report
    - Appendix F2:Terrestrial Biodiversity Assessment
    - Appendix F3:Geotechnical Investigation
    - Appendix F4:Heritage Impact Assessment
- Appendix G: EMPr
- Appendix H: Photographs
- Appendix I– Heidelburg Cemetery Environmental Impact Assessment Tables
- Appendix J: Expertise of the EAP and Project Team
- Appendix K: DOIs and EAP Affirmation
- Appendix L: Application form
- Appendix M: DEFF Screening Tool

CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.