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**PROPOSED DEVELOPMENT OF THE ENDANGERED WILDLIFE
OPERATIONAL CENTRE ON PORTION 6 OF FARM RUIJTE-74 IN THE
DINOKENG GAME RESERVE, LIMPOPO PROVINCE**

DRAFT BASIC ASSESSMENT REPORT

FOR COMMENT

DATE: FEBRUARY 2023

REF NO: 22044-EWOC-GES-DBAR-001

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PROJECT DETAILS

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Disclaimer

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The opinions expressed in this report have been based on the information supplied to Legacy EMC by the Client and specialists appointed by EWOC. Legacy EMC has exercised all due care in reviewing the supplied information, but conclusions from the review are reliant on the accuracy and completeness of the supplied data. Legacy EMC does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Legacy EMC accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this report by any third party.

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Letter of Undertaking and Statement of Independence

The Author / Environmental Assessment Practitioner (EAP) herewith confirms the correctness of the information provided in this Report, including supporting documents and reports.

Neither Legacy EMC nor any of the authors of this Report have any material present or contingent interest in the outcome of this Project, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of Legacy EMC.

Legacy EMC has no beneficial interest in the outcome of the assessment which is capable of affecting its independence.



Lauren Abrahams

(Environmental Assessment Practitioner)

Signature of the Environmental Assessment Practitioner

Legacy Environmental Management Consulting (Pty) Ltd

Name of the Company

20 February 2023

Date

Executive Summary

Legacy Environmental Management Consulting (Pty) Ltd (Legacy EMC) has been appointed by the Endangered Wildlife Operational Center NPC as the independent consultants to undertake the Basic Assessment Process in terms of the National Environmental Management Act, 1998 (No 107 of 1998, as amended) (NEMA) and the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) for the proposed development of an Endangered Wildlife Operational Center (EWOC) on Portion 6 of Farm Ruimte-74 in the Dinokeng Game Reserve (DGR), Limpopo Province (hereafter the “site”).

Introduction and Background

South Africa is home to the highest biodiversity in the world. Unfortunately, due to the pressure of habitat loss, poaching, and climate change, we face a situation where species numbers are declining at an alarming rate. Except for habitat protection, it is of utmost importance to have veterinary treatment protocols to ensure that compromised wildlife can be treated appropriately. Additional research is also required to ensure the correct release of these animals into an intact ecosystem. The only way to get this science and undertake research on appropriate topics is to have a facility such as the EWOC.

The EWOC is a non-profit organisation established in 2017 to provide critical veterinary care to orphaned or injured wildlife that are victims of poaching or human-animal conflict, and also provides access to and collaboration of the best wildlife veterinarians, ecologists, zoologists and wildlife managers in an effort to plan for the future where time may not be on our hands.



The proposed activities that will be undertaken at the EWOC include the following:

- 🌿 Receiving wildlife;
- 🌿 Complete medical evaluation by a team of world-leading veterinarians;
- 🌿 Treatment/surgery of the wildlife in the hospital;
- 🌿 Short-term holding facilities for compromised wildlife that have undergone surgery;
- 🌿 Long-term holding facilities for strengthening the wildlife before they are released. For example, a cheetah who has undergone surgery may need to get fit before being released into the wild;
- 🌿 Staff will be on-site to manage and coordinate the wildlife at the Facility; and
- 🌿 Reproduction research will be done to ensure the genetic viability of endangered species.

The Facility will be located on approximately 30.0 Hectares of Portion 6 of Farm Ruimte-74, which is situated within the Bela-Bela Local Municipality, Limpopo Province. Farm Ruimte-74 is located approximately 70 km north of Tshwane, along the N1-Freeway. The site is strategically positioned within the Waterberg District Municipality of the Limpopo province, sharing borders with Gauteng, Mpumalanga and North West provinces and is surrounded by the Dinokeng Game Reserve and surrounding areas such as Rust de Winter Nature Reserve, Leewfontein Provincial Nature Reserve, Welgedach Game Reserve, and Mdala Nature Reserve.

The proposed facilities, land uses, and footprint of the proposed development include the following:

- 🌿 Staff accommodation –
 - Managers House ~192 m²;
 - Volunteers Camp ~120 m²;
 - A dining hall, kitchen and Back of House (laundry etc.) ~216 m²;
- 🌿 Fully equipped veterinary hospital ~3783 m², which will comprise of –

- Holding Area;
 - Outdoor Aviary;
 - Theatre Rooms;
 - Offices; and
 - Reception;
-  Wildlife animal enclosures: short and long-term holding facilities for compromised patients with a development footprint of ~6 711 m², which includes –
- Rhino boma-paddock holding ~864 m²;
 - Elephant stockades ~ 864 m²;
 - Wild Dog bonding boma ~317 m²;
 - Cheetah Recovery Camp ~1 144 m²;
 - Small Animal Reproduction Area ~216 m²;
 - Buffalo Quarantine Boma ~1 728 m²;
 - Horse Pen ~314 m²;
 - Horse Stable ~64 m²;
 - Horse Paddock ~1 200 m²;
 - Future animal holding areas ~30 255 m²;
-  Other zones which entail:
- The MEP/Tourism Information Hub ~255 m²;
 - 5 m Clearance Building Platforms ~18 300 m²; and
 - Access Roads (gravel) ~5 423 m².

The proposed development activities trigger listed activities as per the EIA Regulations, as amended in April 2017, promulgated in terms of the NEMA. Activities listed under Listing Notices 1 to 3 are considered potentially harmful to the receiving environment. And are, therefore, subject to an environmental impact assessment in order to obtain environmental authorisation (EA) from the relevant competent authority, namely the Limpopo Department of Economic Development, Environment and Tourism (LEDET), for the project to commence. This report has been commissioned to investigate the potential environmental and social impacts which may arise due to the proposed development.

Impact Assessment

Legacy EMC have assessed the potential impact of the proposed development on the natural, cultural and socio-economic environment of the site and its surroundings. The impact assessment on the identified impacts has been discussed in this report, including the baseline receiving environment it may impact on. The impact assessment is summarised as follows:

Table 1: Summary of Potential Impacts

Nuisances (i.e. dust, noise and vibration)		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Visual and sense of place		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Soils and Groundwater contamination – stormwater and erosion		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Soils and Groundwater contamination – sewage management and treatment		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss or destruction of faunal and floral habitat		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss of Threatened or Protected Species (ToPs) Protected Tree Species		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss or destruction of heritage resources		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Influx of job seekers		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)
Local crime		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)
New employment opportunities		
Criteria	Rating Before mitigation	Rating After mitigation

Nuisances (i.e. dust, noise and vibration)		
Status and Significance	Positive; Low (L+)	Positive; Low (L+)
Human-wildlife interactions / conflict		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)

Mitigation Measures

The following mitigation measures have been proposed, but not limited to:

- 🌿 Restrict the construction footprint, and avoid clearing vegetation until absolutely necessary (i.e. just before excavations). Stabilise exposed surfaces as soon as practically possible. Areas cleared of vegetation must be monitored constantly, and any germinating weeds/alien species must be removed before they are able to establish. If chemical control is required (e.g. Glyphosate), this must be applied as per instructions and regulations. However, mechanical control for such a small area is preferable to chemical control;
- 🌿 Avoid excavation, handling, and transport of materials, which may generate dust under high wind conditions or when a visible dust plume is present. Limit construction vehicle speeds to 40 km/hr on gravel roads. Reduce airborne dust at construction sites through e.g.-
 - Damping dust-generating areas/roads with water;
 - Covering dumps or stockpiles of loose material with plastic sheeting or netting, especially during windy conditions;
- 🌿 Limit noisy construction activities to normal working hours from Monday to Friday, especially when working near residences. Inform adjacent neighbours of construction activities ahead of time and keep records of the notification. Investigate potential noise reduction measures such as mufflers on equipment if complaints regarding construction noise are received;
- 🌿 Locate the site camp away from sensitive receptors and screen with materials that blend into the surrounding area. Minimise the use of night-lighting and use down-lighting as much as possible, if required;
- 🌿 Inspections will be done on a regular basis, once a week, to septic tanks are operating correctly. Staff will be trained to do the inspections as required by means of a checklist and a trouble-shooting guide;
- 🌿 Due to the probability of overlooking Red and Orange listed Species, it is suggested that a site specific one-day verification of plants be undertaken just prior to development in order to facilitate the possible translocation of species of conservation concern. This is not considered to be a fatal flaw; however, it is recommended that an independent Environmental Compliance Officer must be appointed to oversee construction activities;
- 🌿 A temporary fence or demarcation must be erected around the construction area (including the servitude, construction camps, areas where the material is stored and the actual footprint of the development) to prevent access of pedestrians, construction workers and vehicles to natural areas outside the construction area;
- 🌿 No open fires, harvesting of trees for firewood, or the hunting and trapping of animals are permitted; A management plan to prevent the staff from harassing or poaching the faunal species must be developed and implemented;
- 🌿 Formalise access roads and make use of the existing or historical roads footprint, rather than creating new routes through naturally vegetated areas. Maintain site demarcations in position until the cessation of construction work;

- After construction, the land must be cleared of waste, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction; and
- Surplus waste removed from the property must be disposed of at a registered waste management facility, and proof of disposal be retained for auditing purposes and to ensure no illegal dumping is practiced.

Working on the assumption that the EWOC is committed to ensuring that the proposed development is undertaken to high standards, which shall be achieved through the implementation of the recommended mitigation measures, Legacy EMC believes that this report demonstrates that the adverse impacts can be reduced to levels compliant with national (and international) standards or guidelines.

Conclusion

The BAR has been made available for stakeholder review for 60-days, on the Legacy EMC website. The public participation process was conducted in accordance with the 2017 NEMA EIA Regulations (GNR 326) Chapter 6 (as amended).

This BAR has identified and assessed the potential biophysical and socio-economic impacts associated with the proposed development, which will result in unavoidable adverse environmental impacts, although these are of relatively limited intensity, given the disturbed nature of the project area, which has largely been transformed through previous anthropogenic activities. Consequently, none of these adverse impacts are considered unacceptably significant and all can be managed to tolerable levels through the effective implementation of the recommended mitigation measures. In addition, the proposed development will provide socio-economic benefits due to the optimal utilisation of the property, which is consistent with the objectives of the DGR.

In conclusion, Legacy EMC is of the opinion that on purely 'environmental' grounds (i.e. the project's potential socio-economic and biophysical implications), the application as it is currently articulated should **be approved**, provided the essential mitigation measures are implemented.

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TERMINOLOGY

The following abbreviations are used in this report:

Abbreviations	Description
BPEO	Best Practical Environmental Option
CBA	Critical Biodiversity Area
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ES	Environmental Specification
ESA	Ecological Support Areas
GNR	Government Notice Regulation
HCRW	Health Care Risk Waste
IAPs	Interested and Affected Parties
IEM	Integrated Environmental Management
LEDET	Limpopo Department of Economic Development, Environment and Tourism
NEM: BA	National Environmental Management: Biodiversity Act, (Act No 10 of 2004)
NEMA	National Environmental Management Act, (Act No 107 of 1998)
NHRA	National Heritage Resources Act, (Act No. 25 of 1999)
NPC	Not for Profit Company
NWA	National Water Act, Act No 36 of 1999
PPP	Public Participation Process
SCC	Species of Conservation Concern

GLOSSARY

The following terms are used throughout this report, the meaning of which is presented below:

Terms	Description
Activity	An activity or operation carried out as part of the proposed excavation and removal plan
Baseline	Information gathered at the beginning of the study which describes the receiving environment prior to the commencement of the proposed development, against which predicted impacts are measured.
Biodiversity	Biodiversity includes the diversity or variety, of plants, animals including any other living organism, located in a particular area or region. It also includes diversity in respect of habitat, species and genetics.
Community	Those stakeholders who may be impacted upon by the proposed development. This may include neighbouring landowners, local communities and other occasional users of the area.
Consultation	The process of exchanging views, concerns and suggestions about the proposed development through meaningful discussions and transparent sharing of information.
Cumulative Impacts	Direct and indirect impacts that act together with current or future potential impacts of other or proposed developments in the area/region that affect the same resources and/or receptors.
Ecology	The study of the interrelationships of organisms with and within their environment.
Ecosystem	The interconnected collection of all species populations that occupy a given area and the physical environment with which they interact.
Environment	The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group. These may include the biophysical, social, economic, historical and cultural aspects.
Environmental Authorisation	The authorisation granted by the competent authority in respect of a listed activity in terms of NEMA.
Environmental Impact Assessment (EIA)	The process of evaluating the environmental and socio-economic consequences of a proposed development.
Environmental Impact Assessment Report (EIAR)	The report created to communicate the information gathered and assessments undertaken during this process.
Environmental Management Programme (EMPr)	A description of the environmental specifications or mitigation measures proposed for achieving the required environmental objectives and/ or targets as required by the relevant competent authorities, during all phases of a proposed development.
Fauna	The collective animals of a region.
Flora	The collective plants growing in a geographic area.
Impact	A change to the existing environment, either positive or negative in nature, that is directly or indirectly due to the proposed development and its associated activities.
Integrated Environmental Management	The practice of incorporating environmental management into all stages of the proposed development's lifecycle, i.e. planning/ design, construction, operational and decommissioning phases.
Mitigation Measures	Design or management measures that are proposed to avoid and/or minimise or enhance an impact, depending on the desired effect.

Terms	Description
Stakeholders	All parties or persons impacted or affected by the proposed development. Including those parties able to influence the proposed development, often those in a position of authority and/or representing others.
Sustainable Development	The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that the proposed development serves present and future generations.



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014

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

File Reference Number:

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NEAS Reference Number:

(For official use only)

Date Received:

Due date for acknowledgement:

Due date for acceptance:

Due date for decision

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.
2. 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.
3. Where applicable **tick** the boxes that are applicable in the report.
4. 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 Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.
5. An incomplete report may be returned to the applicant for revision.
6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.
8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.
9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.
10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address: Central Administration Office Environmental Impact Management P. O. Box 55464 POLOKWANE 0700	Physical Address: Central Administration Office Environmental Affairs Building 20 Hans Van Rensburg Street / 19 Biccard Street POLOKWANE 0699
Queries should be directed to the Central Administration Office: Environmental Impact Management:- For attention: Mr E. V. Maluleke Mobile: 082 947 7755 Email: malulekeev@ledet.gov.za	

View the Department's website at <http://www.ledet.gov.za/> for the latest version of the documents.

SECTION A: ACTIVITY INFORMATION

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

YES	NO
-----	---------------

If YES, please complete the form entitled “Details of specialist and declaration of interest” or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in **Appendix D**.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail¹:

The activities relating to the application constitute the clearance of indigenous vegetation for the proposed development of the Endangered Wildlife Operational Centre (EWOC), located on Portion 6 of Farm Ruimte-74 in the Dinokeng Game Reserve (DGR), Limpopo Province. Refer to Figure 1. The EWOC Facility/land uses and footprint of the proposed development include:

- Staff accommodation – ±528 m²;
- Fully equipped veterinary hospital ±3783 m²;
- Wildlife animal enclosures: short and long-term holding facilities for compromised patients with a development footprint of ±6 711 m²;
- Other zones entail:
 - The MEP/Tourism Information Hub ~255 m²;
 - 5 m Clearance Building Platforms ~18 300 m²; and
 - Access Roads (gravel) ~5 423 m².

Portion 6 of Farm-74 is ±342,857 m² in extent, currently zoned for agricultural purposes and located within the DGR. The proposed development will require the transformation of agricultural land to institutional/training/eco-tourism purposes.

2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this

¹ Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

report the Department 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.

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

The Alternatives considered as part of this application include:

- Alternative 1 (the preferred alternative): this entails the development of the proposed EWOC Facility, on Portion 6 of Farm Ruimte-74, as per the Site Development Plan (SDP). Refer to **Appendix A2** for a copy of the Preliminary SDP; and
- The No-go Alternative: where the proposed development will not be implemented, and Portion 6 of Farm Ruimte-74 remains as is.

3. 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 degrees, minutes and seconds. The projection that must be used in all cases is the Hartebeeshoek 94 WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

Alternative 1: the development of the proposed EWOC Facility, see Figure 1. **Latitude (S):** **Longitude (E):**

Alternative S1² (preferred or only site alternative)

25°	14'	46.50"	28°	20'	39.82"
°	'	"	°	'	"
°	'	"	°	'	"

Alternative S2 (if any)

Alternative S3 (if any)

In the case of linear activities: NOT APPLICABLE³

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

Alternative S1 (preferred or only route alternative)

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

°	'	"	°	'	"
°	'	"	°	'	"
°	'	"	°	'	"

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

² "Alternative S.." refer to site alternatives.

³ Please note all internal access road alignments will only be confirmed during the detailed design phase and based on the recommendations of the Ecological Specialist as per the detailed vegetation assessment of the development footprint to avoid any protected tree and plant species identified on the site.

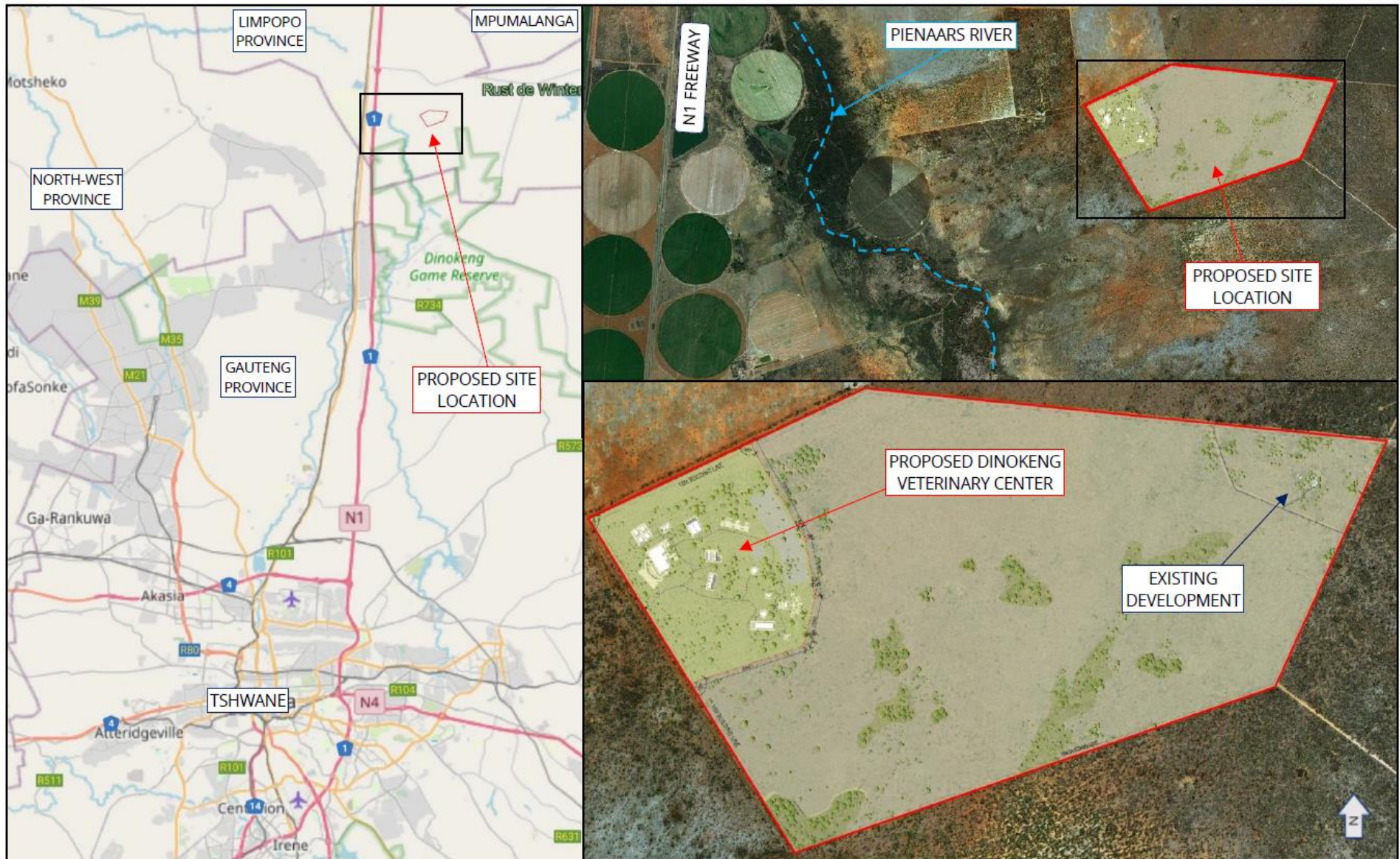


Figure 1: Proposed Development Locality Plan (Source Civil Engineering Services Report, WEC, 2021)

4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1⁴ (preferred activity alternative, development footprint)

Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities: **Not Applicable**

Size of the activity:

±65,255 m ²
m ²
m ²

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

m
m
m

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

Not Applicable

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

m ²
m ²
m ²

5. SITE ACCESS

Does ready access to the site exist?	YES	NO
If NO, what is the distance over which a new access road will be built	±904 m	
Describe the type of access road planned:		
Road infrastructure to the Farm and surrounding perimeter comprises gravel roadways. There are also minor gravel roads toward the existing residence on the eastern portion of the Farm. All proposed new internal roads will be classified as gravel roads with widths of 6 m.		

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

Refer to Appendix A2 for a copy of the Preliminary SDP, indicating the proposed access roads entering from the property's western boundary.

6. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

6.1 the scale of the plan which must be at least a scale of 1:500;

⁴ "Alternative A.." refer to activity, process, technology or other alternatives.

- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

Refer to the Preliminary Site Development Plan attached as Appendix A2 and A3.

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 Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Refer to the Photosheet attached as Appendix B.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C ⁵for 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.

Refer to the diagrams attached as Appendix A2 and A3

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

	R30,000,000.00
	Non-Profit Organisation
YES	NO
YES	NO

What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

Is the activity a public amenity?

⁵ Refer to Appendix A2 and A3 which provides the site plan and the floor plan of the facility.

How many new employment opportunities will be created in the development phase of the activity?	Estimated 120
What is the expected value of the employment opportunities during the development phase?	R 9,000,000
What percentage of this will accrue to previously disadvantaged individuals?	65%
How many permanent new employment opportunities will be created during the operational phase of the activity?	Estimated 30
What is the expected current value of the employment opportunities during the first 10 years?	R 63,300,000
What percentage of this will accrue to previously disadvantaged individuals?	65%

9(b) Need and desirability of the activity

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

NEED:			
i.	Was the relevant municipality involved in the application?	YES	NO
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	YES	NO
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation: The application is undertaken by a private non-profit organisation. The municipality is consulted as a stakeholder as part of this EIA process.		

DESIRABILITY:			
i.	Does the proposed land use / development fit the surrounding area?	YES	NO
ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial Development Framework, Land Use Management Scheme, and planning visions for the area?	YES	NO
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	NO
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
v.	Will the proposed land use / development impact on the sense of place?	YES	NO
vi.	Will the proposed land use / development set a precedent?	YES	NO
vii.	Will any person's rights be affected by the proposed land use / development?	YES	NO
viii.	Will the proposed land use / development compromise the "urban edge"?	YES	NO
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
i.	Will the land use / development have any benefits for society in general?	YES	NO

ii.	Explain: The EWOC is a non-profit organisation established in 2017 with the aim to provide critical veterinary care to orphaned or injured wildlife that are victims of poaching or human-animal conflict, and also provides access to and collaboration of the best wildlife veterinarians, ecologists, zoologists and wildlife managers in an effort to plan for the future where time may not be on our hands.		
iii.	Will the land use / development have any benefits for the local communities where it will be located? <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">YES</td> <td style="text-align: center;">NO</td> </tr> </table>	YES	NO
YES	NO		
iv.	Explain: The Facility will be located on approximately 30.0 Ha of Portion 6 of Farm Ruimte-74, which is situated within the Bela-Bela Local Municipality, Limpopo Province. Farm Ruimte-74 is located approximately 70 km north of Tshwane, along the N1-Freeway. The site is strategically positioned within the Waterberg District Municipality of the Limpopo province, sharing borders with Gauteng, Mpumalanga and North West provinces and is surrounded by the DGR and surrounding areas such as Rust de Winter Nature Reserve, Leewfontein Provincial Nature Reserve, Welgedach Game Reserve, and Mdala Nature Reserve. Refer to Appendix A for the Locality Map. The main objective of the DGR is to develop tourism through the use of local natural resources, thereby increasing the employment rate and living conditions of local people. It further aims to conserve and develop the historical, natural and cultural heritage of the area. And the proposed development is in alignment with the objectives of the DGR.		

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:

Administering authority:

Date:

Title of legislation, policy or guideline:	Administering authority:	Date:
Bela-Bela Local Municipality SDF	Local	2018
Dinokeng EMF	Provincial & Local	
Environmental Impact Assessment Regulations, in terms of NEMA.	Provincial	7 April 2017
Limpopo Provincial Spatial Development Framework	Provincial	2022
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
National Environmental Management: Protected Areas Act (Act No. 57 of 2003)	National & Provincial	2003
National Environmental Management: Waste Act (Act No. 59 of 2008) (and its Regulations and Norms and Standards).	National & Provincial & Local	2008
National Heritage Resources Act, 1999 (Act No. 25 of 1999).	South African Heritage Resource Agency	28 April 1999
National Water Act, 1998 (Act No. 36 of 1998).	National	26 August 1998
National Road Traffic Act, 1996 (Act 93 of 1996)	National & Provincial	1996
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) as amended.	National & Provincial	1983
The Limpopo Environmental Management Act, 2003 (Act No. 7 of 2003).	Provincial	2003

The Municipal Systems Act, 2000 (Act 32 of 2000).	Local	2000
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004) as amended (and its Regulations and Norms and Standards).	National & Provincial	2004
The National Forest Act, 1998 (Act No. 84 of 1998) as amended.	National & Provincial	1998
The National Spatial Biodiversity Assessment, 2004 (and its technical support documents).	National & Provincial	2004
Waterberg District Environmental Management Framework.	Provincial & Local	
Waterberg District Municipality SDF	Local (District)	2021

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

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

YES	NO
±6 m ³	

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

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

The solid waste generated during the construction phase of the development will be removed by the appointed contractor / private waste management service provider on a weekly basis.

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

The solid waste removed will be disposed of at a suitably licenced Waste Management Facility (WMF).

Will the activity produce solid waste during its operational phase?

YES	NO
±2 m ³	

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

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

The general solid waste generated by the Facility will be removed by a private waste management service provider on a weekly basis and disposed of at a suitably licenced WMF.

In addition, the health care risk waste generated by the Facility will be removed by Compass Medical Waste Services (Pty) Ltd, where it will be disposed of at a suitably licenced WMF.

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

The general and health care risk waste removed from the Facility will be disposed of at suitably licensed WMF.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the department 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
----------------	----

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

A portion of the solid waste stream generated by the veterinary clinic is classified as healthcare risk waste and will be removed and disposed of by a registered service provider (Compass Medical Waste Services (Pty) Ltd, and will not be disposed of on site. All waste will be disposed of at a suitably licensed WMF.

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

YES	NO
-----	---------------

If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
-----	---------------

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

15.61 kl/day⁶

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

YES	NO
----------------	----

As there are no bulk services in close proximity to the proposed development and none planned by the Municipality in the foreseeable future, all effluent generated will be captured in a closed system/package plant to provide anaerobic treatment of the screened raw sewage. Anaerobic treatment reduces COD, Nitrogen, Phosphorous and pathogenic microorganisms. The resulting treated wastewater can be used for irrigation, alternatively disposed of by evaporation or collected by a suitably registered service provider.

If yes, the applicant should consult with the Department 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
-----	---------------

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:

Connection of a new internal sewer network cannot be made to nearby existing infrastructure due to the remote location of the development site. Therefore, sewerage generated by the facilities on the site will be discharged into a closed system/package plant. EWOC proposes using the CALCAMITE BloMite Treatment Plant, a SABS approved septic tank. From the septic tank, sewage is transferred to the Waste Water Treatment Plant (WWTP) tanks, treated to an odourless and clear waste water, to a water quality standard that is safe for re-use for irrigation or dust suppression on the site. The system is entirely automated and requires no full-time operator on site.

The technical specifications of the WWTP will be designed based on the engineering calculations provided in

⁶ As per the Civil Engineering Services Report, WEC Consulting, 2021.

the Engineering Services Report, see **Appendix D3**. The WWTP will be constructed within concrete bunds to capture potential spills and prevent possible soil and groundwater contamination. The WWTP will reach full working efficiency within ninety days (bio-mass to be build up) on the condition that eco-friendly chemicals are introduced and maintained at all times. The Department of Water and Sanitation (DWS) has previously approved this specific package plant; references of current installations include the Ritsako Game Lodge (within the Dinokeng Game Reserve); Empangeni Buckanana Clinic; Iswowi Clinic; Josini Clini; Pretoria O.M Training Base; Magaliespark Resort, to name but a few.

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

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

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:

Not Applicable.

11(d) Generation of noise

Will the activity generate noise?

YES	NO
YES	NO

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

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 noise in terms of type and level:

Noise generally associated with construction activities will be generated during the construction phase of the development and is typically limited to the immediate vicinity of the construction site.

Operational noise is dependent on the wildlife kept at the facility at the time and will vary as a result and will be similar to that of the surrounding area as the proposed development will be located within a game reserve.

12. WATER USE

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

municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water
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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:

± 730 Kilolitres
YES NO

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.⁷

As per the Civil Engineering Services Report (WEC, 2021), the average daily water demand for the proposed development is 0.84 peak flow (l/s). As indicated above, water will be sourced from the existing





⁷ The applicant to obtain and apply for the required Water Use Authorisation once the detailed designs and facility requirements are known and confirmed.

borehole (BH7), which is located at the following coordinates 25°16'41.5" S 28°21'03.7" E.

The proposed site is located within the Quaternary Catchment 'A23C'. The National Water Act (No. 36 of 1998) (NWA) permits a maximum abstraction volume of groundwater at this location in the 'A23C' catchment at $45 \text{ m}^3/\text{ha}/\text{year}$.

As per the Borehole Test Certificate (dated 27 May 2021, by Boorgat Guru), the actual yield of the existing borehole is 6 000 litres per hour, while the maximum allowable groundwater abstraction volume calculated is $30 \text{ Ha} \times 45 \text{ m}^3 = 1.35 \text{ ML}$ per year. Further, this equates to a maximum abstraction rate of approximately 3 700 L/day that may be abstracted from this borehole.

In terms of Section 21 of the NWA, a Water Use Authorisation will be required for the following listed water uses triggered by the proposed development:

-  Section 21(a): taking water from a water resource;
-  Section 21(b): storing water;
-  Section 21(e): engaging in a controlled activity (irrigation with waste water); and
-  Section 21(g): disposing of waste in a manner which may detrimentally impact on a water resource.

The above-mentioned water uses will likely fall within the General Authorisation (GA) provisions and depending on the volume of water stored and the quality of the treated effluent water produced by the Waste Water Treatment Plant (WWTP), only a Water Use Registration may be required. Furthermore, EWOC are aware that a Water Use Licence Application will be applicable if the volume of water abstracted exceeds GA thresholds and the quality of treated effluent water does not comply with GA quality standards. The applicability of these water uses can however only be determined once the detailed designs which confirms the volume of water to be stored, as well as the volume and quality of wastewater produced at the WWTP has been provided.

As such we recommend that the requirement to obtain the necessary water use authorization/ and or license be a condition of the EA to be met prior to commencement of said activities.

13. ENERGY EFFICIENCY

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

As per the Electrical Load Services Report (Elfranja Boerdery CC, August 2021, see **Appendix D5**), there is an 11kV line with a 50kVA transformer next to the site that currently feeds the Farm and would be available to feed the load of the Facility.

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

Considering the current power shortages affecting South Africa, it is recommended that EWOC considers powering portions of the Facility (such as the electric fencing and lights) from a small solar system(s). This can easily be applied to all the animal enclosures remote from the main hospital. It may also be feasible to consider installing a bigger solar system for the main hospital to circumvent load shedding and also to save some costs. It would eliminate the need for a standby generation unit if designed correctly. This should be considered in the detailed design of circuits, even if this option will not be implemented initially. Design the system with essential and non-essential loads separate with separate feeds.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important Notes:

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

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

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

- Has a specialist been consulted to assist with the completion of this section? YES NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Specialist and Technical Reports are included in Appendix D1 to D5.

Property description/physical address:	Portion 6 of Farm Ruimte74 is located near Hammanskraal and is accessed mainly via the N1 freeway, onto the R734 offramp and a gravel road (parallel to the N1) for an approximated 25km. (Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.
District Municipality in whose jurisdiction the proposed activity will fall	Waterberg District Municipality
Nearest town/city:	Hammanskraal / 9km north of Green Side
	In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.
Current land-use zoning:	Farms Agricultural
	In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

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

<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

Must a building plan be submitted to the local authority?

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

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

A Locality Map is included as Appendix A1.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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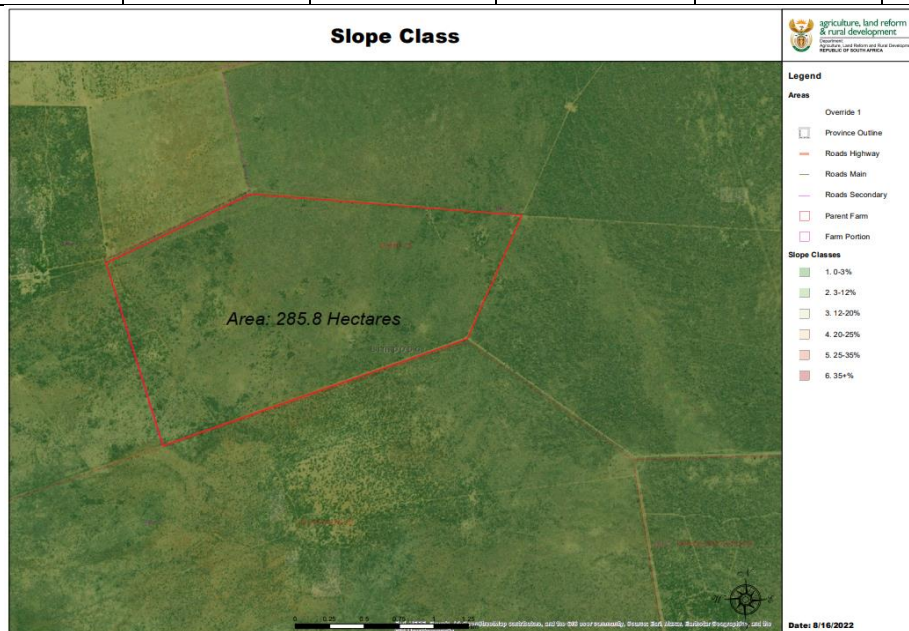


Figure 2: The development area is located in an area which is representative of a slope class of 0 to 3% (Source: NAR Atlas SA, 2022 and Civil Engineering Services Report, WEC-Consult, 2021).

Alternative S2 (if any): **Not Applicable**

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
-------------	-------------	-------------	-------------	--------------	-------------	------------------

Alternative S3 (if any): **Not Applicable**

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

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

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

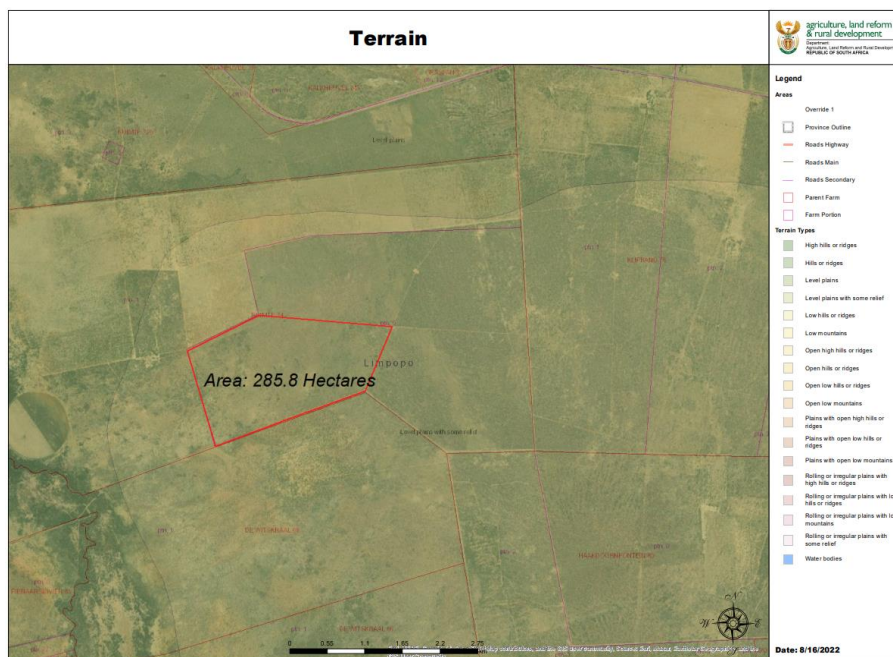


Figure 3: The terrain of the development area is described as level plains with some relief (source: NAR Atlas SA, 2022)

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

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

The Civil Engineering Report⁸ describes the nature of the soil in this region as having a “dominant parent material known as Leptosols [from ‘Soil and Terrain Database (SOTER) for South Africa’, 1972 – 2001]; which are soils with a very shallow profile depth and can often contain amounts of gravel. Depending on climate and topography, they typically remain under natural vegetation, being especially susceptible to erosion, desiccation, or waterlogging.

⁸Source: Civil Engineering Services Report, WEC-Consult, 2022

Furthermore, underlying soils found in this region as Para plinthic Acrisols, are typically characterised by an accumulation of low activity clays. The overlaying soils (from 'National Soil Map of South Africa', 1965) mainly comprise red and grey ferruginous lateritic soils typically rich in iron and aluminium.

The exact nature and composition of the soils found at this location are unknown until a geotechnical investigation is carried out."

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

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

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

According to the Ecological Assessment undertaken by Enviro-Insight, June 2022, the ground cover/vegetation on site is described as follows.

The general habitat types in relation to the development are shown in Figure 4. Habitat types with similar attributes are discussed together below. Overall, the habitats overlap significantly, and the deliberation thereof will not have a substantial outcome on the mitigation of impacts.

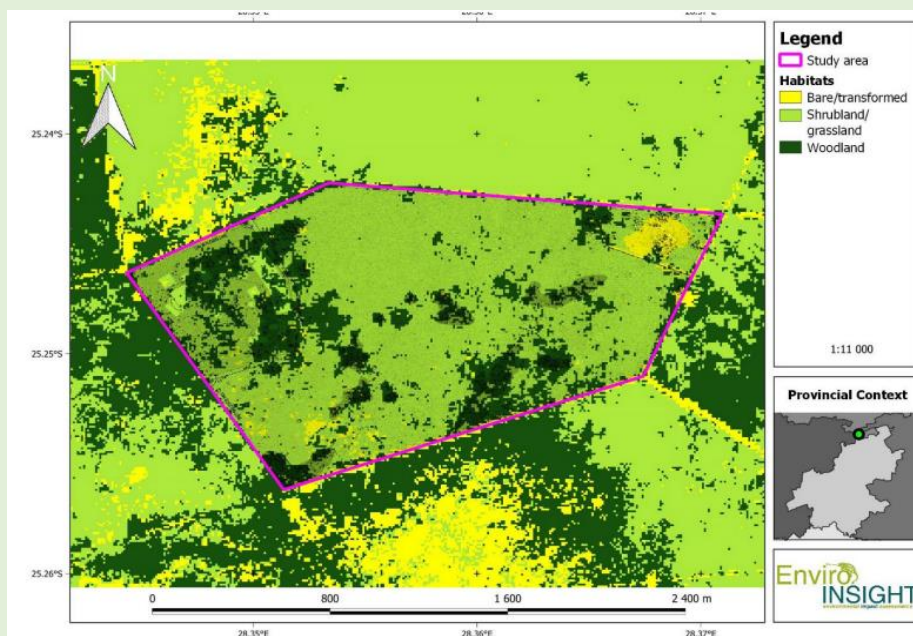


Figure 4: Delineation of major habitat types in relation to the facility. Source: Ecological Assessment, EnviroInsight, 2022.

Shrubland/Grassland

This habitat is highly transformed due to predominantly livestock (cattle and sheep) agricultural activities (Figure 5).



Figure 5: Old agricultural fields. Source: Ecological Assessment, EnviroInsight, 2022.

This habitat consists mostly of open grasses shrubland with *Combretum apiculatum*, *Peltophorum africanum*, *Dichrostachys cinerea*, *Searsia leptodictya*, *Vachellia tortillis* and *Euclea crispa* dominating the species composition. Alien and invasive plant species occurring; *Schkuhria pinnata* (Dwarf marigold), *Tagetes minuta* (Khaki-weed) and *Bidens pilosa* (Blackjack).

Woodland

This habitat is only moderately transformed due to livestock agricultural activities. The landscape consists mostly of natural scrub with a moderate shrub layer and may attract seed eaters and foraging raptors, which will be seasonally prevalent (Figure 6).



Figure 6: Natural and Disturbed Natural Source: Ecological Assessment, EnviroInsight, 2022.

Some of the vegetation from the herbaceous layer has been removed, with some indigenous trees standing within the overall development footprint. Indigenous tree species include *Combretum apiculatum*, *Peltophorum africanum*, *Ziziphus mucronata*, *Euclea crispa*, *Vachellia nilotica*, *Pappea capensis*, *Combretum hereroense*

and *Dombeya rotundefolia*. Alien species include *Pennisetum clandestinum* (Kikuyu grass), as well as the unnatural introduction of alien and invasive species for horticultural reasons.

The impacts within Phase 1 include the removal of the herbaceous layer as well as some topsoil, impacts associated with prior grazing practices. Electrical fencing that surrounds Phase 1 may impede natural migrations of fauna, especially reptiles.

5. LAND USE CHARACTER OF SURROUNDING AREA

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

5.1 Natural area	✓	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial ^{AN}		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam ^A		5.29 Sewage treatment plant ^A	
5.9 Light industrial		5.30 Train station or shunting yard ^N	
5.10 Heavy industrial ^{AN}		5.31 Railway line ^N	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport ^N	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station ^H		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	✓
5.18 Agriculture	✓	5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	✓
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

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

Not Applicable

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

If YES, specify and explain:

Not Applicable

If NO, specify:	
-----------------	--

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

If YES, specify and explain:	Not Applicable
If NO, specify:	

6. CULTURAL/HISTORICAL FEATURES

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

YES	NO
Uncertain	

If YES, explain:

--

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

Briefly explain the findings of the specialist:

The Key findings of the HIA undertaken by Beyond Heritage, 2021, indicate: *"The Project area is characterised by deep sand and a flat topography with thick grass cover and shrubs.*

- *There are no major topographical features that would have attracted occupation in antiquity, and no settlements or structures are indicated on historical maps or aerial photographs;*
- *This was confirmed during the field survey, and no heritage sites of significance were noted, and finds were limited to sparsely scattered, isolated Middle Stone Age lithics that are out of context and of low significance but attest to human occupation of the landscape in antiquity;*
- *Based on the South African Heritage Resources Information Services (SAHRIS) Palaeontological map, the area is of insignificant paleontological sensitivity, and no further studies are required for this aspect".*

Based on their findings, the HIA further goes on to recommend that the impact on heritage resources is considered low in significance and is recommended for authorisation.

Will any building or structure older than 60 years be affected in any way?

YES	NO
YES	NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

*The proposed development triggers listed activities in terms of Section 38 of the National Heritage Resources Act (No 25 of 1999, and therefore a case (CaseID 20667) has been submitted to the South African Heritage Resources Authority (SAHRA) refer to Proof of Submission in **Appendix K.***

SECTION C: PUBLIC PARTICIPATION

This PPP will be undertaken in accordance to the principles of integrated environmental management as highlighted in the NEMA (Chapter 1), including Chapter 6 of the 2017 NEMA EIA Regulations (GNR 326), regulation 39 to 44.

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the department;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained; and
 - (v) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation 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, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the department to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

As per the principles enshrined in the Constitution, including the NEMA, public participation is a right and is understood to be a series of inclusive and culturally appropriate interactions aimed at providing stakeholders with opportunities to express their views so that these can be considered and incorporated into the decision-making process. Effective public participation requires the prior disclosure of relevant and adequate project information to enable stakeholders to understand the proposed development's risks, impacts, and opportunities.

This PPP will be undertaken in accordance with the principles of integrated environmental management as highlighted in the NEMA (Chapter 1), including Chapter 6 of the 2017 NEMA EIA Regulations (GNR 326), regulations 39 to 44.

The objectives of the PPP can be summarised as follows:

- ☞ Identify relevant individuals of the general public, communities, civic organisations and state departments or agencies who may be interested in or affected by the proposed development;
- ☞ Clearly outline the scope of the proposed development, including the scale and nature of the existing and proposed activities;

- ☞ Identify shortcomings and gaps in existing information;
- ☞ Identify viable project alternatives that will assist the relevant authorities in making an informed decision;
- ☞ Identify key concerns raised that should be addressed in the subsequent specialist studies;
- ☞ Highlight the potential for environmental and socio-economic impacts, whether positive or negative; and
- ☞ Inform stakeholders of the proposed solutions or mitigation measures which will be implemented to mitigate the potential impacts identified.

The approach Legacy EMC has adopted in terms of the PPP is based on the following principles:

- ☞ Undertake meaningful and timely participation with IAPs;
 - ☞ Focus on significant issues during the Process;
 - ☞ Undertake due consideration of all alternatives tabled;
 - ☞ Take accountability for the information provided and circulated;
 - ☞ Encourage co-regulation, shared responsibility and a sense of ownership over the proposed project lifecycle;
 - ☞ Apply “due process”, particularly with regard to the PPP as provided for in the 2017 NEMA EIA Regulations; and
 - ☞ Consider the needs, interests and values of all IAPs.
- Legacy EMC proposes the following activities to be undertaken as part of the process:
- ☞ Identify and registration of all IAPs;
 - ☞ Notify the relevant Competent and Commenting Authorities about the proposed development;
 - ☞ Notify all IAPs of about the proposed development;
 - ☞ Manage public meetings, if required;
 - ☞ Compilation of the Comments and Responses Report;
 - ☞ Circulation of the BAR for IAP review and comment;
 - ☞ Circulation of the EMPr for IAP review and comment; and
 - ☞ IAP notification of the Competent Authority’s final decision and appeals procedure.

The activities undertaken thus far to canvass public opinion regarding the proposed project are summarised as follows:

- ☞ Media Notice advertising the commencement of the PPP and the availability of the draft BAR in *Die Pos* local newspaper on the 24/02/2023;
- ☞ Informing identified potential IAPs of the commencement of the PPP on 24/02/2023;
- ☞ Circulation of the draft BAR for 30 days: 24/02/2023 – 27/03/2023;
- ☞ Submission of the final BAR to LEDET is estimated April 2023.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

Appendix E is to be provided with the Final BAR.

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

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.

Name of Authority informed:	Comments received (Yes or No)
Bela-Bela Local Municipality	No, this is the draft report which is currently being circulated for comments.
Department of Water and Sanitation [Limpopo Water Management Area]	
Limpopo Department: Agriculture and Rural Development [Chief Directorate: Sustainable Resource Use: Land Care and Land Use Management]	
Limpopo Department: Public Works, Roads and Infrastructure	
South African Heritage Resources Authority [Limpopo Heritage Resources Authority]	
National Department of Agriculture, Land Reform and Rural Development [Limpopo Provincial Office]	
Waterberg District Municipality	

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

YES NO

None received to date.

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

To be provided in the Final BAR.

SECTION D: IMPACT ASSESSMENT

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

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Please note that no issues have been raised to date as the draft BAR is currently being circulated for public and authority inputs. Though, the following potential impacts have been considered by the EAP based on practical experience:

- 🌀 Potential temporary nuisance impact(s) such as **noise, vibration** and **dust** during the construction phase;
- 🌀 Potential degradation/ scarring of the **visual** landscape and **sense of place** (aesthetics) during the pre-construction and construction phases;
- 🌀 Potential **soil, surface** and/or **groundwater contamination** during both the construction and operational phases;
- 🌀 The potential impact on **terrestrial biodiversity** (flora and fauna) during both the construction and operational phases;
- 🌀 The potential impact on **heritage resources** during the construction phase of the project;
- 🌀 The potential **socio-economic** impacts such as employment opportunities during the construction (temporary) and operational phase (permanent), health, safety and environmental impacts during the construction phase;
- 🌀 The potential **safety and security** resulting from human-wildlife interactions and or conflict during the operational phase.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

The proposed development will entail triple bottom-line costs, i.e. social, environmental and economic costs. The triple bottom line concerns itself with environmental (taken to mean biophysical) sustainability, social equity and economic efficiency and is typically employed by companies seeking to report on their performance. The concept serves as a useful construct to frame the evaluation of the environmental impacts of the project.

The challenge for LEDET is to take a decision which is sustainable in the long term and which will probably entail trade-offs between social, environmental and economic costs and benefits. The trade-offs are documented in this BAR, which assesses the environmental and socio-economic impacts and benefits and compares these to the No-Go alternative. Legacy EMC believes it will be instructive to reduce the decision factors to the key points that the authorities should consider. These points constitute the principal findings of the BAR:

- 🌀 The proposed mitigation measures, as proposed by the EAP and the specialist team, are a condition that must be implemented despite the final decision on the EA application;
- 🌀 The potential environmental impacts of the proposed development in this process include dust, vibration, noise, visual and sense of place, terrestrial ecology, soil, surface and groundwater, heritage resources, and socio-economic. Assuming that the recommended mitigation measures will be effectively implemented, the proposed development is not expected to have unacceptably significant adverse impacts, while the socio-economic benefits are considered significant.
- 🌀 The most significant impact (in the EAP's opinion) is associated with the 13 protected trees identified as part of the protected tree assessment, of which one recorded species may need to be removed/felled for

the successful construction and operation of the facility. The Specialist ultimately concluded that avoidance of removal of any protected species should be seen as the most preferable mitigation measure. Alternatively, a destruction permit should be applied for. It is therefore recommended that protected trees be integrated into the design and layout of the facility as far as reasonably possible, and where avoidance is unachievable effective implementation of the proposed mitigation measures for protected trees, including all others, the potential risk to the receiving environment will be appropriately mitigated.

The No-Go alternative implies no change to the status quo. The proposed development would not be approved by the LEDET, and the facility will not be established. Though it should be mentioned, it is inevitable that this alternative is not feasible or reasonable as the area is included in the Dinokeng EMF development zones in which development of eco-tourism as per the various spatial plans and municipal IDP for the area and surrounds.

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

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Alternative (preferred alternative)

ALTERNATIVES

The reasons for not assessing any other alternatives other than the preferred and the no-go alternative are hereby motivated as follows:

PROPERTY ALTERNATIVE

EWOC is a registered NPC (non-profit) and public benefit organisation (PBO).

The property on which the facility is proposed was received as a donation, and no other property or location alternative other than the no-go alternative exists. The proposed property and location are considered favourable as the facility is located on approximately 30.0 Ha of Portion 6 of Farm Ruimte-74, situated within the Bela-Bela Local Municipality, Limpopo Province. The site is strategically positioned within the Waterberg District Municipality of the Limpopo province, sharing borders with Gauteng, Mpumalanga and North West provinces and is surrounded by the Dinokeng Game Reserve and surrounding areas such as Rust de Winter Nature Reserve, Leewfontein Provincial Nature Reserve, Welgedach Game Reserve, and Mdala Nature Reserve.

As such, the proposed property and location presented by this preferred alternative are accepted to be the only reasonable and feasible option to be considered. No further investigations and or assessments are deemed to be required.

LAYOUT ALTERNATIVE

The site layout within the development footprint has been determined based on specialist and technical inputs by the project team and consultants. The layout, as proposed in the preferred alternative, is, therefore, the only reasonable and feasible alternative and takes into account recommendations and mitigation measures of the project team and consultants to avoid and/or mitigate negative impacts to within acceptable limits. As such, the layout presented by the preferred alternative is considered the only reasonable and feasible option included in the application. No further assessment and or investigation is deemed to be required.

ACTIVITY ALTERNATIVES

South Africa is home to the highest biodiversity in the world. Unfortunately, due to the pressure of habitat loss, poaching, and climate change, we face a situation where species numbers are declining at an alarming rate. Except for habitat protection, it is of utmost importance to have veterinary treatment protocols to ensure that compromised wildlife can be treated appropriately. Additional research is also required to ensure the correct release of these animals into an intact ecosystem. The only way to get this science and undertake research on appropriate topics is to have a facility such as the EWOC.

The EWOC is a non-profit organisation established in 2017 with the aim to provide critical veterinary care to orphaned or injured wildlife that are victims of poaching or human-animal conflict, and also provides access to and collaboration of the best wildlife veterinarians, ecologists, zoologists and wildlife managers in an effort to plan for the future where time may not be on our hands.

The proposed activities that will be undertaken at the EWOC include:

- 🌀 Receiving wildlife;
- 🌀 Complete medical evaluation by a team of world-leading veterinarians;
- 🌀 Treatment/surgery of the wildlife in the hospital;
- 🌀 Short-term holding facilities for compromised wildlife that have undergone surgery;
- 🌀 Long-term holding facilities to strengthen the wildlife before they are released. For example, a cheetah who has undergone surgery may need to get fit before being released into the wild;
- 🌀 Staff will be on-site to manage and coordinate the wildlife at the Facility; and
- 🌀 Reproduction research will be done to ensure the genetic viability of endangered species.

No activity alternatives other than the no-go alternative is therefore considered reasonable and feasible to achieve the objectives of the EWOC facility. As such, only the establishment (construction) of the facility and the no-go alternative will be considered and assessed in the impact assessment portion of this report.

DESIGN AND TECHNOLOGY

The facility intends to provide veterinary services to a range of wildlife typically occurring on game farms in South Africa. The design specifications of the facility must comply with industry and best practice standards for the transporting, holding, treating, rehabilitating and releasing of wildlife. In addition, the Facility is located within areas which intercept with the Dinokeng and Waterberg EMFs. And therefore, the facility design, specifically the safety specifications of enclosures for wildlife/game, must meet the requirements of those frameworks as well as any other specific local, provincial and/or national legislation, guideline, policy and or protocol specific to the care and rehabilitation of wildlife.

As indicated in the Dinokeng EMF: *“The design, construction, operation and decommissioning of facilities must comply with the general principles of this SEMP, the DGR Development Guidelines, as well as any other specifications laid down by regulatory bodies responsible for development coordination or environmental management in the DGR. Structures outside of urban areas may not exceed 2 storeys above natural ground level.”* The preferred alternative must comply with the principles included in the Dinokeng EMF and is considered the only reasonable and feasible alternative in this application. No further investigation or assessment is therefore deemed necessary.

OPERATIONAL

Operational aspects of the EWOC must comply with the general principles of the Dinokeng EMP, DGR EMP, and any other specifications as per applicable local, provincial, and National legislation governing the veterinary care provided to wildlife and/or big game. The facility must ensure that the welfare of wildlife is not negatively affected and will not result in an adverse risk to people, property, and the environment. As such, the facility's operations will be undertaken per the operational management plan compiled for the facility, which aims to comply with applicable legislation, guidelines and policy objectives.

SUMMARY OF IMPACTS ASSESSED IN TERMS OF THIS APPLICATION

PLANNING AND DESIGN PHASE

Direct impacts:

- ④ Loss and or destruction of terrestrial biodiversity (flora and fauna), ToPs protected trees resulting from vegetation clearing and site preparations.
- ④ Potential soil, surface and/or groundwater contamination from chemicals and hazardous substances used in clearing and site preparations. Hydrocarbon contamination from vehicles/machinery used during clearing and site preparations.
- ④ Loss and or destruction of heritage resources encountered during clearing and site preparation.
- ④ The influx of workers seeking temporary employment opportunities for clearing and site preparation activities.
- ④ Risk to staff and personal safety and security resulting from human-wildlife interactions and/or conflict during the clearing and site preparation.

Indirect impacts:

- ④ Increased crime and potential community unrest from local residents resulting from the influx of work seekers to the area.
- ④ Increased pressure on municipal services from the increased number of job seekers to the area.

Cumulative impacts:

- ④ The cumulative loss of indigenous vegetation resulting from surrounding developments.

CONSTRUCTION PHASE

Direct impacts:

- ④ Temporary nuisance impact(s) such as noise, vibration and dust resulting from construction activities, vehicles, and machinery.
- ④ Soil, surface and/or groundwater contamination such as hydrocarbon spills/contamination from construction vehicles, chemical/hazardous substances contamination from construction activities and products, i.e. cement etc.
- ④ Degradation of on-site ToPs protected tree species and surrounding natural/undeveloped areas and/or adjacent properties due to poor housekeeping on the development site and laydown areas.
- ④ The potential impact on heritage resources during the construction phase of the project.
- ④ Loss and/or destruction of heritage resources encountered during construction activities, predominantly associated with civils and excavations.
- ④ Risk to staff and personal relating to health, safety and the environment.
- ④ The influx of skilled, semi-skilled and un-skilled workers seeking temporary employment opportunities.
- ④ Risk to staff and personal safety and security resulting from human-wildlife interactions and/or conflict on site and the surrounding environment.

Indirect impacts:

- ④ Increased crime and potential community unrest from local residents resulting from the influx of work seekers to the area.
- ④ Increased pressure on municipal services from the increased number of job seekers to the area.
- ④ Decreased resource quality resulting from soil, surface and groundwater contaminants affecting downstream users.

Cumulative impacts:

- The combined potential impact from all surrounding developments may result in a significant loss and or destruction of heritage resources.

OPERATIONAL PHASE

Direct impacts:

- Potential soil, surface and/or groundwater contamination resulting from poor waste management, poor or ineffective wastewater and sewage management, poor chemical and hazardous chemicals handling, storage and management, hydrocarbon leaks and spills (vehicles, machinery, equipment).
- The potential impact on terrestrial biodiversity (flora and fauna) resulting from encroachment onto the natural/undeveloped areas and adjacent properties, encroachment of alien vegetation, and anthropogenic activities outside the developed footprint.
- The influx of unskilled, semi-skilled and skilled workers seeking permanent employment opportunities.
- The influx of students and or learners seeking training and or learnership opportunities.
- The potential safety and security resulting from human-wildlife interactions and/or conflict as a result of ineffective wildlife containment at the facility, or during transit/movement of injured and/or rehabilitated wildlife to and from the facility.

Indirect impacts:

- Increased stormwater and erosion.
- Increased pressure on municipal services from the increased number of job seekers to the area.
- Decreased resource quality resulting from soil, surface and groundwater contaminants affecting downstream users.
- Increased crime and potential community unrest from local residents resulting from the influx of work seekers to the area.
- Damage and/or destruction of property and/or people (loss of belongings and/or life) from human/property-wildlife interactions and/or conflict.

Cumulative impacts:

- Education and awareness of the local community and surrounding landowners/operators in the area who choose to participate in awareness and outreach/education programmes offered by the EWOC.
- Increased veterinary and rehabilitation services and service capacity for the DGR and surrounds.

DECOMMISSIONING AND REHABILITATION –

Decommissioning and rehabilitation are not foreseen and or likely to occur, however, in the event that decommissioning and rehabilitation are required, the impacts related thereto are provided hereunder and are in general similar in nature and significance to the construction phase impacts.

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
Visual impact. The site will become a derelict “eye sore” if the remaining structures are allowed to physically deteriorate	Medium	Alternative land use. It is advisable to determine beforehand what would be done in future with the property on which the development is	Low	Decrepit buildings could become a health and safety risk to public and could negatively impact the

(as was experienced when the property was purchased).		established in this instance.		reputation of the DGR.
Squatters may use the site and its structures as a place to dwell. This poses a potential environmental threat in terms of uncontrolled domestic waste and sewage disposal on site.	Medium	If the operations ends and no other land-use / development are planned for this area, then all structures will have to be removed from site. This will have to be done by the owner of the land together with a licensed contractor to dispose of all waste to licensed landfill sites. The site will have to be rehabilitated by ripping the compacted areas and where possible bring in topsoil from the area to help establish natural vegetation on-site again. Weed control need to be done regularly until the natural vegetation has reestablished. Proper fencing should be in place to prevent squatters settling on the vacant land.	Low	Health and safety risk to public and could negatively impact the reputation of the DGR.




Impact Assessment Methodology

The following methodology has been applied to the prediction and assessment of impacts. Potential impacts have been rated in terms of the direct, indirect, and cumulative nature of the impact:

- 🌀 **Direct** impacts – are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable;
- 🌀 **Indirect** impacts – of an activity are indirect or induced changes that may occur because of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place because of the activity;
- 🌀 **Cumulative** impacts – are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.

The significance of each potential impact, with and without the implementation of the proposed mitigation measures, will be assessed based on the following variables (evaluation components):

- 🌀 Spatial extent – The size of the area that will be affected by the impact;
- 🌀 Intensity (or Magnitude) – The anticipated severity of the impact;
- 🌀 Duration – The timeframe during which the impact will be experienced;

-  Probability – The probability of the impact occurring;
-  Reversibility – The “reversibility” of the environmental impacts of the proposed development after project cessation or decommissioning; and
-  Irreplaceability – The “irreplaceability” of natural characteristics in the area that may be impacted upon by the proposed development.

Using the criteria above, the impacts will further be assessed with the use of quantifiable values as described below:

Table 2: Evaluation of criteria, by means of quantitative ratings and descriptions

Criteria	Description	Quantitative Rating
Duration	Temporary (less than a year)	1
	Short term (1 to 6 years)	2
	Medium term (6 to 15 years)	3
	Long term (the impact will cease after the operational life of the activity)	4
	Permanent (mitigation will not occur in such a way or in such a time span than the impact can be considered transient)	5
Spatial extent	Site specific	1
	Local (less than 2 km from the site);	2
	Regional (within 30 km of the site)	3
	National (beyond Provincial boundaries and within National boundaries)	4
	International / Transboundary (Beyond National boundaries)	5
Intensity Applicable to Negative Impacts (at indicated spatial extent)	None (Biophysical and/or social functions and/or processes will remain unaltered)	0
	Very Low (Biophysical and/or social functions and/or processes might be negligibly altered)	2
	Low (Biophysical and/or social functions and/or processes might be slightly altered)	4
	Medium (Biophysical and/or social functions and/or processes might be notably altered)	6
	High (Biophysical and/or social functions and/or processes might be considerably altered)	8
	Very High (Biophysical and/or social functions and/or processes might be severely altered)	10
Intensity Applicable to Positive Impacts (at indicated spatial extent)	None (Biophysical and/or social functions and/or processes will remain unaltered)	0
	Very Low (Biophysical and/or social functions and/or processes might be negligibly enhanced)	2
	Low (Biophysical and/or social functions and/or processes might be slightly enhanced)	4
	Medium (Biophysical and/or social functions and/or processes might be notably enhanced)	6
	High (Biophysical and/or social functions and/or processes might be considerably enhanced)	8
	Very High (Biophysical and/or social functions and/or processes might be substantially enhanced)	10
Probability	Improbable (5% to no chance of occurring)	1

Criteria	Description	Quantitative Rating
	Probable (5% - 25% chance of occurring)	2
	Medium Probability (25% - 75% chance of occurring)	3
	Highly probable (75% - 95% chance of occurring)	4
	Definite (greater than 95% chance of occurring)	5
Reversibility	No impact	0
	Impact will be reversible	1
	High potential that impact might be reversed	2
	Moderate potential that impact might be reversed	3
	Low potential that impact might be reversed	4
	Impact cannot be reversed	5
Irreplaceability	None	0
	Very low potential for loss of irreplaceable resources	1
	Low potential for loss of irreplaceable resources	2
	Moderate potential for loss of irreplaceable resources	3
	High potential for loss of irreplaceable resources.	4
	Definite loss of irreplaceable resources	5
Cummulative impact	High: The activity is one of several similar pasts, present or future activities in the same geographical area, and might contribute to a very significant combined impact on the natural, cultural, and/or socio-economic resources of local, regional or national concern.	
	Medium: The activity is one of a few similar pasts, present or future activities in the same geographical area, and might have a combined impact of moderate significance on the natural, cultural, and/or socioeconomic resources of local, regional or national concern.	
	Low: The activity is localised and might have a negligible cumulative impact.	
	None: No cumulative impact on the environment.	

Once the evaluation components have been ranked for each impact, the significance of the potential impact is assessed (or calculated) using the following formula:

$$\text{SP (significance points)} = (\text{intensity} + \text{duration} + \text{spatial extent} + \text{irreplaceable} + \text{reversibility}) \times \text{probability.}$$

The maximum value is 150 SP (significance points). The unmitigated and mitigated scenarios for each environmental impact should be rated as per the table below (**Error! Reference source not found.3**).

Table 3: Definition of significance ratings (positive and negative).




Significance Points	Environmental Significance	Description
125 – 150	Very high (VH)	An impact of high or very-high significance which could influence a decision about whether to proceed with the proposed project, regardless of available mitigation options. Cumulative Impacts:
100 – 124	High (H)	The activity is one of several similar pasts, present or future activities in the same geographical area, and might contribute to a very significant combined impact on the natural, cultural, and/or socio-economic resources of local, regional, or national concern.
75 – 99	Moderate-high (MH)	If left unmanaged, an impact of moderate-high significance could influence a decision about whether to proceed with the proposed project. Mitigation options should be re-evaluated.
40 – 74	Moderate (M)	If left unmanaged, an impact of moderate significance could influence a decision about whether to proceed with the proposed project. Cumulative Impacts: The activity is one of a few similar pasts, present or future activities in the same geographical area, and might have a combined impact of moderate significance on the natural, cultural, and/or socio-economic resources of local, regional, or national concern.
<40	Low (L)	An impact of low significance is likely to contribute to positive decisions about whether to proceed with the proposed project. It will have little real effect and is unlikely to have an influence on project design or alternative motivation. Cumulative Impacts: The activity is localised and might have a negligible cumulative impact.
+	Positive impact (+)	A positive impact is likely to result in a positive consequence/ effect and is likely to contribute to positive decisions about whether to proceed with the proposed project.

THE DETAILED IMPACT ASSESSMENT UNDERTAKEN FOR THE PREFERRED ALTERNATIVE AND THE NO-GO ALTERNATIVE IS PROVIDED HEREUNDER:

IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASES

i. POTENTIAL NUISANCE IMPACTS

The following potential nuisances impact(s) was identified:

-  Reduced air quality during construction due to dust;
-  Potential noise impact; and
-  Potential vibration impact.

Ambient air quality in the DGR is mainly influenced by range of anthropogenic sources of air pollution. These include the adjacent formal/informal residential area, listed agricultural facilities, smaller manufacturing industries, and the gravel road network.

During the construction phase, vehicle access to the construction site is mostly from gravel roads which may increase the volume of dust generated and exhaust fumes from construction vehicles and diesel generators, which may increase air pollution in the vicinity of the property.

The impact on air quality is assessed to be of **moderate** significance, and the implementation of mitigation remains of very low significance.

Sound/Noise levels diminish with distance from the source because of dispersion. In simple terms, for point sources, the distance attenuation would be approximately 6 dBA per doubling of distance from the source. For line sources, the same attenuation is approximately 3 dBA.

Noise pollution results from unwanted or excessive noise with potential effects that range from causing a nuisance to more harmful effects such as sleep disturbance, high stress levels and, in extreme cases, hearing loss.

The existing noise environment in the area surrounding the proposed development is typically rural with limited anthropogenic influences.

All construction activities generate noise. However, such impacts are typically limited to the immediate vicinity of the construction site. Since the proposed development will be conducted in a phased approach, it is expected that construction noise will proceed along the site as construction progresses and that the impact at any one point along the alignment of the property will be of a shorter duration than the total construction period.

There are a limited number of sensitive receptors in the study area:

- The closest residential / eco-tourism property is approximately 1 km away from the proposed development.

The impact is assessed to be of **moderate** significance, and with the implementation of mitigation is assessed to be of **low** significance.

The impacts of noise, including **seismic disturbance**, on fauna has not been well investigated in South Africa, but it can be assumed that there will be a negative impact, especially from the use of heavy machinery during the construction phase (Barber et al., 2009; Kight & Swaddle, 2011). The fauna most likely to be affected include all rupicolous (rock-loving) and psammophilic (sand-loving) animals living close to areas of construction. Other types of noise disturbance likely to affect animals include those generated by traffic, generators, people and dogs. In general, disturbance which is confined to particular areas, and is regular in its intensity and timing, is tolerated better by wildlife than random and variable levels of disturbance. This can be attributed to habituation to regular disturbance.

The development at the site will generate noise/vibrations during the Pre-construction and Construction Phases, but much less so during the Operational Phase. The amount of noise/vibrations generated during construction will depend on the method of construction. Generators and heavy vehicles are likely to be major sources of noise/vibrations.

Confidence in this assessment cannot be better than **low** because both the intensity of noise disturbance and the reaction to such by various faunal species is unknown and unpredictable. Therefore, the precautionary principle is applicable.

Note there are no known or proposed developments occurring in the vicinity of the property, and therefore the cumulative impact is considered negligible.

Table 4: Potential impact as a result of nuisances

Nuisances (i.e. dust, noise, and vibration)		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Increased dust, noise, and vibration due to construction activities. The potential impact source is the use of heavy vehicles and equipment. The proximity of the closest anthropogenic receptor is ~1 km, the DGR as an ESA and the wind conditions on site.	Negative
Intensity	Medium (6)	Very Low (2)
Duration	Temporary (1)	Temporary (1)

Spatial extent	Local (2)	Local (2)
Reversibility of impact	Reversible (1)	Reversible (1)
Irriplacability of resources	None (0)	None (0)
Probability of impact occurring	Definite (5)	Highly probable (4)
TOTAL (SP) / Significance	50 Moderate (M)	20 Low (L)
Cumulative impacts	Moderate (M) – this is due to the proximity and sensitivity of the receptors, which would have a combined impact of moderate significance on the local receiving environment. However, with the effective implementation of the proposed mitigation measures the cumulative impact may be reduced to a lower rating.	
Proposed mitigation measures	<p>Essential mitigation measures during construction are as follows:</p> <ul style="list-style-type: none"> • Limiting activities to general operational times from 07h00 to 17h00 from Monday to Friday and 08h00 to 14h00 on Saturdays; • Use of the most environmentally friendly acceptable plant and equipment that is adequately maintained and silenced; • Proper instruction and supervision of staff; • Maintain all generators, vehicles and other equipment in good working order to minimise exhaust fumes; • Avoid clearing of vegetation until absolutely necessary (i.e. just before excavations); • Stabilise exposed surfaces as soon as practically possible; • Avoid excavation and handling and transport of materials which may generate dust under high wind conditions or when a visible dust plume is present; • Limit construction vehicle speeds to 40 km/hr on gravel roads; • Reduce airborne dust at construction sites through e.g.- <ul style="list-style-type: none"> - Damping dust-generating areas/roads with water; and - Cover dumps or loose material stockpiles with plastic sheeting or netting, especially during windy conditions. • Inform adjacent neighbours of construction activities ahead of time and keep records of the notification; • Complaints register at the site and trigger mechanisms to mitigate any potential impacts to nearby sensitive receptors. 	
No-Go Alternative	The status quo remains. The No-Go alternative implies that no additional disturbance will occur other than disturbances related to existing agricultural related activities. As such, under the No-Go alternative, site conditions are expected to remain as per the current conditions.	

ii. POTENTIAL VISUAL AND SENCE OF PLACE IMPACTS

The development site , according to the HIA (Beyond Heritage, 2022), is described as having flat topography with no major topographic focal points that would have attracted human occupation in antiquity, and no settlements or structures are indicated on historical maps or aerial photographs. The area is covered by a thick growth of grass and scattered trees with a dirt road providing access.

According to the Civil Engineering Services Report, the proposed development site is situated within the

catchment of the Pienaars River. The topography of the site slopes toward the Pienaars River, located approximately 3km to the West. Much of the surrounding area comprises bushveld vegetation.

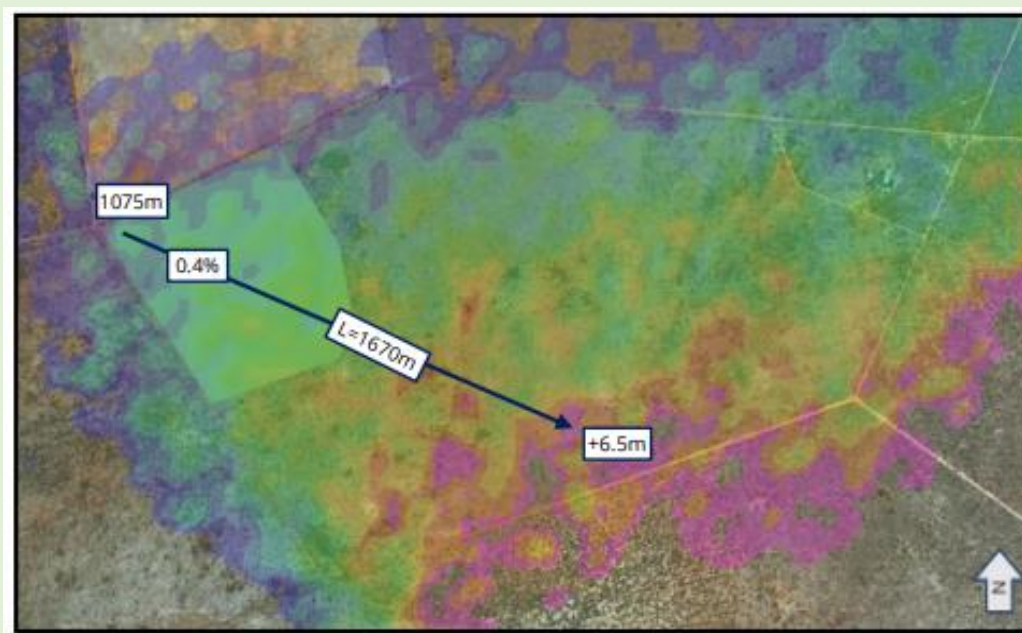


Figure 7: Elevation map of the site. Source: WEC, 2022.

The elevation difference of the terrain is shown in 7. Note that these are not surveyed elevations but estimated surface elevations from available sources. From the location of the proposed development, a cross slope of approximately 0.4% stretches to the most elevated region of the plot – with an approximate difference in elevation of about 6 m across approximately 1670 m. The surface elevation of the western corner, near the proposed development, is approximately 1075 m MSL.

The visual character of the site can therefore be characterised by wide open vistas, with the surrounding views considered typically rural (due to the agricultural nature of adjacent and surrounding properties) , with a natural to semi-natural feel where agricultural activities are not actively or where historically undertaken.

Road infrastructure to the location comprise of gravel roadways surrounding the perimeter of the plot, which is accessed mainly via the N1 freeway, onto the R734 offramp and a gravel road (parallel to the N1) for an approximated 25km. There are also minor gravel roads surrounding the nearby existing development to the East. As such the property is not located or linked to any major transport route, and is not likely to result in a significant impact on the surrounding visual aesthetic or sense of place.

Various pre-construction and construction activities on site such as the clearing of the site, earthworks, machinery, material stockpiles, and dust generation, all generate visual impacts. Though, such impacts are typically limited to the immediate vicinity of the construction site and the construction period.

The project area has a high to moderate Visual Absorption Capacity (VAC), or potential for the area to conceal visual impacts due to the vegetation cover. The landscape also already contains linear elements in the project area, such as fences, power lines and farm roads, and in the surrounding area, including provincial roads. Low vegetation and limited existing development do not further contribute to the VAC of the area.

The extent of the impact is deemed to be local, as sensitive receptors are not deemed to be significantly affected. The significance of the impact is deemed to be moderate, even though there are relatively few visually sensitive receptors in the area, and they will only be affected during the construction of the proposed development, their sensitivity to the impact increases this rating as most tourist prefer the tranquillity of a natural vista. The duration of the impact will be specific to the construction phase. The proposed development shows minimal contrast with the existing environment and does not alter the sense of place; though **moderate** significance is derived based on the expected construction activities. A **low** significance visual intrusion is

expected post mitigation.

Table 5: Potential Visual and Sense of Place Impact

Visual scarring		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Visual scarring to the local landscape due to construction activities.	Negative
Intensity	Medium (6)	Very Low (2)
Duration	Temporary (1)	Temporary (1)
Spatial extent	Site specific (1)	Site specific (1)
Reversibility of impact	Moderate (3)	Moderate (3)
Irriplacement of resources	None (0)	None (0)
Probability of impact occurring	Highly probable (4)	Highly probable (4)
TOTAL (SP) / Significance	44 Moderate (M)	28 Low (L)
Cumulative impacts	Moderate (M) – this is due to the proximity and sensitivity of the receptors, which would have a combined impact of moderate significance on the local receiving environment. However, with the effective implementation of the proposed mitigation measures the cumulative impact may be reduced to a lower rating.	
Proposed mitigation measures	Essential mitigation measures include: <ul style="list-style-type: none"> • Restrict the construction footprint and retain as much vegetation as possible; • Implement erosion prevention measures and on-site stormwater management to prevent additional scarring; • Implement dust suppression measures; • Locate the site camp away from sensitive receptors and screen with materials that blend into the surrounding area; • Maintain good housekeeping practices, and • Minimise the use of night-lighting and use down-lighting as much as possible, if required. 	
No-Go Alternative	The status quo remains. The No-Go alternative implies that no construction related to the proposed development will occur. As such, under the No-Go alternative, site conditions are expected to remain as per the current conditions, which has the potential to deteriorate if the property is not maintained, i.e., regular alien vegetation clearing, maintaining fire break and fire loads of the property, fence maintenance to discourage the potential for land invasions and or squatters.	

iii. POTENTIAL SOIL, SURFACE, AND GROUNDWATER IMPACTS

According to the Civil Engineering Services Report,⁹ the proposed development site is situated within the catchment of the Pienaars River. The topography of the site slopes toward the Pienaars River, located

⁹ WEC, 2022

approximately 3km to the West. Much of the surrounding area comprises bushveld vegetation. Referring to Figure 88, the existing terrain of the plot can be described as sandy and flat, with scattered veld vegetation and grass across the entire terrain surface. 8 shows that the proposed location is undeveloped; however, an existing development exists in the eastern corner of the plot.



Figure 8: Aerial image of the proposed location of the development site as depicted in the white polygon. Source: WEC, 2022.

The proposed development location is situated in the western corner of the property. This location's elevation¹⁰ is the lowest of the surrounding farm portion, near the existing gravel road intersection. No local or regional stormwater detention facilities are located nearby the site. The stormwater should be allowed to discharge safely at a location near the low point of the site, where it will discharge onto the surface of the adjacent land. Erosion protection or energy dissipation structures may need to be utilized due to the nature of the topsoil. The proposed roadways of the development will also need to convey and channel any surface stormwater runoff into the internal drainage watercourses and overland escape routes.

Table 6: Potential impact as a result of stormwater and erosion

Stormwater runoff and erosion – Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Site clearance during construction may result in an increase in stormwater runoff and associated erosion.	Negative
Intensity	High (8)	Very Low (2)
Duration	Permanent (5)	Medium (3)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	High (2)	High (2)
Irreplaceability of resources	High (4)	High (4)
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	44 Moderate (M)	28 Low (L)
Cumulative impacts	High (H) – this is due to sewage disposal activities in the surrounding region.	

¹⁰ Refer to the description of the site's elevation in impact ii, the potential visual and sense of place impacts.

Proposed mitigation measures	<p>There is no formal existing stormwater network infrastructure located near the site. The stormwater will discharge onto the surface at the lowest point of the site and join the natural watercourse for runoff flowing towards the Pienaars River.</p> <p>A Stormwater Management Plan (SWMP) to be prepared during the detailed design phase of the project, which should provide detail on the intensity and runoff volumes that can be experienced during a 1:2 year, 1:10 & 1:50 year storm events and whether on-site stormwater detention facilities are required.</p>
No-Go Alternative	NA

iv. MANAGEMENT OF SEWAGE:

A new internal sewer network cannot be connected to nearby existing infrastructure. Sewerage generated by the facilities on the site would need to be discharged onto a conservancy tank treatment system to provide anaerobic treatment to the screened raw sewage. Anaerobic treatment reduces COD, Nitrogen, Phosphorous and pathogenic microorganisms by forming sludge and releasing gases. The effluent of the treated wastewater can be used for irrigation or disposed of by evaporation.

As indicated in Section A11(b) of the Civil Engineering Services Report, the facility intends to treat sewage generated by the facility on-site (package plant) as per the details provided in that section. Potential impacts relating to the operation of the on-site package plant are assessed hereunder.

Table 7: Potential impact as a result of soil and groundwater contamination

Impact on Soils and Groundwater – Direct Impact [Operational Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Potential contamination of the soil and groundwater from the on-site treatment of sewage.	Negative
Intensity	High (8)	Very Low (2)
Duration	Permanent (5)	Medium (3)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	High (2)	High (2)
Irreplaceability of resources	High (4)	High (4)
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	44 Moderate (M)	28 Low (L)
Cumulative impacts	High (H) – this is due to sewage disposal activities in the surrounding region.	
Proposed mitigation measures	Package plant to be operated and maintained according to manufacturers' specifications to ensure that the plant operates optimally. This will reduce the potential risk to the environment resulting from plant failure resulting in the potential for contamination of the environment.	
No-Go Alternative	The No-Go alternative implies that no disturbance or potential pollution will occur to soil and surface/groundwater on-site and within the DGR.	

As such, under the No-Go alternative, site conditions are expected to remain as per the current condition (undeveloped agricultural land).

v. POTENTIAL IMPACTS ON TERRESTRIAL ECOLOGY

The effects of infrastructure on the local habitat are highly variable and depend on a wide range of factors, including the design and specification of the development, the topography of the surrounding land, the habitats affected and the number of species of birds present.

Typical potential impacts include (but are not necessarily limited to) habitat loss (including foraging and breeding) and fragmentation due to displacement (avoidance of disturbance). The construction of access roads infrastructure may necessitate the removal of foraging and roosting habitat, destruction or disturbance of floral and faunal breeding habitats, bird roosts and sensitive habitats such as migratory routes. This will occur during the construction phase and sensitive areas include tall emergent trees, flight paths to the adjacent hills and koppies, the drainage lines and seasonal free-standing water (dams and wetlands) across the study area.

Table 8: Potential impact as a result of loss or destruction of faunal or floral habitat

Loss or destruction of faunal and floral habitat – Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. The development will require soil compaction, infrastructure, and the clearing of vegetation for construction and laydown areas. Areas cleared of vegetation are prone to colonisation by alien and/or invasive pioneer plant species.	Negative
Intensity	High (8)	High (8)
Duration	Permanent (5)	Medium (3)
Spatial extent	Site specific (1)	Site specific (1)
Reversibility of impact	High (2)	High (2)
Irreplaceability of resources	High (4)	High (4)
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	40 Moderate (M) for removal of vegetation and the establishment of alien and/or invasive pioneer plant species	36 Low (L) for removal of vegetation and the establishment of alien and/or invasive pioneer plant species
Cumulative impacts	High (H) – this is due to the proposed development in the surrounding Region.	
Proposed mitigation measures	Impacts associated with the loss of faunal and floral habitat due to construction activity can be mitigated by avoiding specific sensitive areas and their associated buffers, such as the protected/ emergent trees. Refer to the Environmental Management Programme (EMPr, Appendix F) for specific mitigation measures proposed by the Terrestrial practitioner.	
No-Go Alternative	NA	

Table 9: Potential impact as a result of the loss of ToPs protected tree species

Loss of Threatened or Protected Species (ToPs) Protected Tree Species – Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Habitat destruction during the construction phase resulting in the loss or destruction of ToPs protected tree species.	Negative
Intensity	High (8)	High (8)
Duration	Permanent (5)	Medium (3)
Spatial extent	Site specific (1)	Site specific (1)
Reversibility of impact	High (2)	High (2)
Irriplacability of resources	High (4)	High (4)
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	40 Moderate (M) for removal of protected trees.	36 Low (L) for removal of protected trees.
Cumulative impacts	High (H) – this is due to the proposed development in the surrounding region.	
Proposed mitigation measures	<p>Avoid removal of protected tree species. Protected tree mitigation as per the Terrestrial Ecologist's recommendations includes:</p> <p>The following total figures were calculated in regard to any pending application for the removal of protected trees and plants:</p> <ul style="list-style-type: none"> • 13 trees and plant stands as an actual count. • The final figure of 13, representing actual marked protected trees, should be fed into any application process. <p>The result of this protected tree assessment is that an estimated 13 individual protected trees of one recorded species may need to be removed/felled for this facility's successful construction and operation. The following information was obtained from the Centre for Wildlife Management, University of Pretoria. The figures provided are not exact but estimates based on prior management plans and official quotations no older than two years. It is estimated that moving each tree (to another location) will cost approximately R9000 for a 5-6 m tree with a stem diameter not exceeding 30 cm, and R12000 for a 6-8 m tree with a stem diameter of 40 to 50 cm. The average cost is thus estimated to be approximately R 10 000 per tree (total of R 130 000). However, it must be noted that many of the trees exceed this diameter and, therefore cannot be successfully translocated without significant risk to the individual tree. Apart from the high cost of the translocation, the estimated survival rate is only 60%, thus equating to high potential mortality. In addition, suitable land must be located into which to relocate the tree species.</p> <p>Furthermore, the transplantation of these individual trees can cause</p>	

<p>additional ecological issues that are highly counterproductive to the preservation of the overall habitat. The heavy earth-moving equipment required to transplant the individual trees will cause extensive damage to the system through soil compaction, indiscriminate vegetation removal and road creation.</p> <p>In summary, relocation is not considered to be a viable option due to the low survival rate of the tree species. The only alternative solution is planting young seedlings to replace the trees removed. This option is recommended as the expected survival rate is much higher (80%) if sufficient aftercare, such as watering, is implemented. However, it must be noted that discretion may be used in the re-planting process and should only equate to the number of trees actually lost. Offset numbers should, in actuality, be much lower than this projected value. The location of seedling generation is under the auspices of the assigned contractor. If this option is not considered to be feasible, on-site mitigations as defined by the ecological results and mitigations must be followed.</p> <p>Ultimately, avoidance of removal of any protected species should be seen as the most preferable mitigation measure; alternatively, a destruction permit should be applied for.</p>	<p>additional ecological issues that are highly counterproductive to the preservation of the overall habitat. The heavy earth-moving equipment required to transplant the individual trees will cause extensive damage to the system through soil compaction, indiscriminate vegetation removal and road creation.</p> <p>In summary, relocation is not considered to be a viable option due to the low survival rate of the tree species. The only alternative solution is planting young seedlings to replace the trees removed. This option is recommended as the expected survival rate is much higher (80%) if sufficient aftercare, such as watering, is implemented. However, it must be noted that discretion may be used in the re-planting process and should only equate to the number of trees actually lost. Offset numbers should, in actuality, be much lower than this projected value. The location of seedling generation is under the auspices of the assigned contractor. If this option is not considered to be feasible, on-site mitigations as defined by the ecological results and mitigations must be followed.</p> <p>Ultimately, avoidance of removal of any protected species should be seen as the most preferable mitigation measure; alternatively, a destruction permit should be applied for.</p>
<p>No-Go Alternative</p>	<p>In terms of the “no-go” alternative, or if the activity does not proceed, there will be no impacts as a result of construction activities.</p>

vi. POTENTIAL IMPACTS ON HERITAGE RESOURCES

The potential impacts on heritage resources were investigated by Beyond Heritage, November 2022. The assessment of impacts is provided as follows.

Potential impacts on heritage resources without mitigation within the project footprint will be permanent and negative and occur during the pre-construction and construction activities. The heritage significance of the recorded Stone Age lithic scatters (D001 and D002) is low as these artefacts are scattered sparsely and are out of context. No mitigation is required apart from mentioning the finds in this report.

Any additional effects on subsurface heritage resources can be successfully mitigated by implementing a chance find procedure. Mitigation measures for specific sites, as outlined under Table 10 of the Heritage Impact Assessment (**Appendix D2**) and additional recommendations in this report, should be implemented during all phases of the project. With the implementation of the recommended mitigation measures, the impacts of the project on heritage resources are acceptable (**Table 10**).

Cumulative impacts are considered as an effect caused by the proposed action that results from the incremental impact of an action when added to other past, present, or reasonably foreseeable future actions. (Cornell Law School Information Institute, 2020). Cumulative impacts occur from the combination of effects of various impacts on heritage resources. Identifying and assessing cumulative impacts is important because the whole is greater than the sum of its parts. In the case of this project, impacts can be mitigated to an acceptable level. However, this and other projects in the area can have a negative impact on heritage sites in the area where these sites have been destroyed unknowingly.

Pre-Construction phase

It is assumed that the pre-construction phase involves the removal of topsoil and vegetation as well as the establishment of infrastructure. These activities can have a negative and irreversible impact on heritage features if any occur. Impacts include the destruction or partial destruction of non-renewable heritage resources.

Construction Phase

During this phase, the impacts and effects are similar in nature but more extensive than in the pre-construction phase. Potential impacts include the destruction or partial destruction of non-renewable heritage resources.

Operation Phase

No impacts are expected during the operation phase.

Table 10: Potential impact as a result of loss or destruction of heritage resources

Loss or destruction of heritage resources – Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation (preservation of site)
Status and nature of the impact	Negative. During the pre-construction and construction phase, activities that disturb surfaces and/or sub-surfaces may destroy, damage, alter, or remove archaeological and paleontological material or objects from its original position.	Negative
Intensity	Minor (2)	Minor (2)
Duration	Permanent (5)	Permanent (5)
Spatial extent	Local (2)	On site (1)
Reversibility of impact	Irreversible (5)	Moderate (3)
Irreplaceability of resources	High (4)	High (4)
Probability of impact occurring	Probable (3)	Not likely (2)
TOTAL (SP) / Significance	54 Moderate (M)	30 Low (L)
Cumulative impacts	Low (L) – Other authorised developments (e.g., residential developments) in the area could have a cumulative impact on the heritage landscape. The impact on physical heritage is low as no sites of significance will be impacted by the new developments.	
Proposed mitigation measures	<ul style="list-style-type: none"> • Implementation of a chance find procedure for the project; • Monitoring of the study area during construction by the ECO. 	
No-Go Alternative	In terms of the “no-go” alternative, or if the activity does not proceed, there will be no impacts as a result of construction activities.	

vii. POTENTIAL IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT

Table 11: Potential impacts as a result of the influx of job seekers

Influx of job seekers – Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. An influx of job seekers will lead to competition with residents for employment opportunities.	Negative
Intensity	Medium (6)	Low (4)

Duration	Temporary (1)	Temporary (1)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	N/A	
Irreplaceability of resources	N/A	
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	22 Low (L)	16 Low (L)
Cumulative impacts	High (H) – this is due to the proposed development in the DGR.	
Proposed mitigation measures	Employers must be committed to employing people from the immediate area whenever possible, alternatively from other areas within the Municipality. The movement of people into and through the area should be monitored and assessed.	
No-Go Alternative	The status quo remains. However, there will be an increase in job seekers because of the cumulative impacts.	

Table 12: Potential impact as a result of local crime

Local crime - Direct Impact [Construction Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. The presence of construction activities may increase the risk of criminal activities in the surrounding area.	Negative
Intensity	Medium (6)	Low (4)
Duration	Temporary (1)	Temporary (1)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	N/A	
Irreplaceability of resources	N/A	
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	20 Low (L)	16 Low (L)
Cumulative impacts	High (H) – this is due to the proposed development in the DGR.	
Proposed mitigation measures	Access to the site is to be controlled during operational periods, with additional security measures introduced after hours. Effective security is essential to safeguard the development and associated infrastructure against criminal elements. Co-operation between the Developer and the SAPS is essential; fencing and on-site security measures will minimise the risk	
No-Go Alternative	The status quo remains. However, there will be an increase in local crime as a result of the cumulative impacts.	

Table 13: Potential impact as a result of new employment opportunities

New employment opportunities - Direct Impact [Operational Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation

Status and nature of the impact	Positive. New employment opportunities.	Positive
Intensity	Medium (6)	Low (4)
Duration	Permanent (5)	Permanent (5)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	N/A	
Irreplaceability of resources	N/A	
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	28 Low (L)	24 Low (L)
Cumulative impacts	High positive (H+) – the prospect of new permanent employment opportunities for the local community will improve the living conditions of the households of the employed persons. Increasing the overall earning potential within the community and surrounds.	
Proposed mitigation measures	To ensure that the surrounding community and residents benefit from the potential employment opportunities, employers need to show a commitment to employ people from the immediate area whenever possible, alternatively from other areas within the Municipality. The movement of people into and through the area should be monitored and assessed.	
No-Go Alternative	The status quo remains.	

Table 14: Potential impact as a result of human-wildlife interactions/conflict

Human-wildlife interactions / conflict - Direct Impact [Operational Phase]		
Criteria	Rating Before Mitigation	Rating After Mitigation
Status and nature of the impact	Negative. Risk to person, property and the environment due to human-wildlife interactions at the facility or during transport, or resulting from unforeseen escapement of wildlife.	Negative
Intensity	Medium (6)	Low (4)
Duration	Temporary (1)	Temporary (1)
Spatial extent	Regional (3)	Regional (3)
Reversibility of impact	Moderate (3)	
Irreplaceability of resources	N/A	
Probability of impact occurring	Probable (2)	Probable (2)
TOTAL (SP) / Significance	26 Low (L)	22 Low (L)
Cumulative impacts	High (H) – this is due to proposed development in the DGR.	
Proposed mitigation measures	Operational management of the facility and its operations to be in accordance with DGR EMPr, as well as other applicable legislative	

	requirements, best practice guidelines for the management and operation of facilities of this nature.
No-Go Alternative	NA

Table 15: Summary of potential impacts

Nuisances (i.e. dust, noise and vibration)		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Visual and sense of place		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Soils and Groundwater contamination – stormwater and erosion		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Soils and Groundwater contamination – sewage management and treatment		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss or destruction of faunal and floral habitat		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss of Threatened or Protected Species (ToPs) Protected Tree Species		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Loss or destruction of heritage resources		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Moderate (M)	Negative; Low (L)
Influx of job seekers		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)
Local crime		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)

New employment opportunities		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Positive; Low (L+)	Positive; Low (L+)
Human-wildlife interactions / conflict		
Criteria	Rating Before mitigation	Rating After mitigation
Status and Significance	Negative; Low (L)	Negative; Low (L)

CUMULATIVE IMPACTS

Cumulative Impacts have been assessed individually in the impact assessment tables above. In addition, the following has been considered.

According to the definition in relation to an activity, the impact of an activity 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. No high significant potential cumulative impacts are identified.

Possible cumulative impacts could be the loss of agricultural land, although this area is not of high potential. All impacts from the construction phase of the development should be continually mitigated. Thus, potentially no high significant cumulative impacts are predicted.

The possible cumulative impacts from the nearby developments in the local area are assessed as follows:

- 🌀 Vegetation clearance – could impact soil layers, soil surface, removal of habitats and the isolation of species diversity.
- 🌀 Road maintenance (all phases) - may impact road surface conditions—poorly maintained access roads cause abnormal soil erosion. Therefore, road maintenance is essential to ensure a practical and usable road to development. Erosion combined with other erosion sites in the areas will create a greater loss of topsoil.
- 🌀 Collection and disposal of solid domestic waste (all phases) - may impact aesthetic quality, surface water run-off, subsurface and groundwater quality, vegetation and fauna. Poor waste collection and handling on all the developments in and around the proposed development will pollute the environment (affecting fauna, groundwater, surface water and aesthetic environment). No illegal dumping of domestic waste will be tolerated. Untidy collection points and windblown refuse can cause human / animal conflicts, as foul odours from such areas will attract wild animals and cause other problems (pests/diseases) and water pollution.

No-go alternative (compulsory)

The No-Go alternative implies that no disturbance will occur other than disturbances related to general farming activities associated with the property or as currently experienced in the area. As such, under the No-Go alternative, site conditions are expected to remain as per the current condition, undeveloped and/or utilised agricultural land.

Alternative B

Not Applicable.

Alternative C

Not Applicable.

3. ENVIRONMENTAL IMPACT STATEMENT

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

Alternative A (preferred alternative)

The Appendix 2 of GNR 326, 2017 EIA Regulations, prescribes the required content of an BAR, including, inter alia, an Environmental Impact Statement (EIS), which is presented in the section below.

The evaluation is undertaken in the context of the:

- 🌀 Project information provided by the applicant;
- 🌀 Assumptions made for this BAR;
- 🌀 The assumption is that the recommended mitigation measures will be effectively implemented; and
- 🌀 Assessments provided by specialists.

This evaluation aims to provide answers to a series of key questions posed as objectives at the outset of this report, which are repeated here:

- 🌀 Assess in detail the environmental and socio-economic impacts that may result from the proposed development;
- 🌀 Identify environmental and social mitigation measures to address the impacts assessed; and
- 🌀 Produce a BAR that will assist the Competent Authority to decide whether (and under what conditions) to proceed.

Relevant observations concerning the overall impact ratings, assuming mitigation measures are effectively implemented, are:

- 🌀 The predicted heritage impacts associated with the loss or disturbance of archaeological and palaeontological resources during construction are rated as low.
- 🌀 The predicted ecological impacts associated with the loss of vegetation during construction are rated as moderate - low, while the degradation of botanical diversity during operation is rated as low.
- 🌀 The predicted soil, ground and surface water impacts associated with effluent and stormwater management, including erosion, are rated as low.
- 🌀 The predicted socio-economic benefits of increased employment during construction and operation are rated as low - moderate, while the benefits of the improved facility consistent with the objectives of the DGR are moderate/high. The economic benefits associated with the operation of the EWOC are rated as high in general.
- 🌀 The predicted air quality impacts associated with dust generation during construction are rated as low.
- 🌀 The predicted visual and sense of place impacts, associated with visual intrusion of construction activities during construction and the altered visual character and sense of place are rated as low.
- 🌀 The predicted noise impacts associated with construction activities are rated as low.

The final preferred alternative, as presented above, has been selected to optimise the resources required for the optimal utilisation of the EWOC and minimise the potential impacts on the environment.

In addition, the proposed mitigation measures will further minimise the potential impacts on the receiving environment.

As per the Ecological Impact Assessment, the terrestrial ecologist concluded: *“the proposed future development activities are largely viewed as a positive advancement within the study area as long as mitigation measures are followed”*.

The following GENERAL recommendations should be implemented before any further development takes place:

- 1. An ECO should be appointed for a pre-construction and post-construction inspection audit, incorporating all mitigation and recommendations as outlined in all of the specialist investigations conducted to date for the property area*
- 2. Development should incorporate and adhere to principles as outlined in The South African Guidelines for Sustainable Drainage Systems (Armitage, Vice, Fisher-Jeffes, Winter, Spiegel, & Dunstan, 2013)*
- 3. All protected trees should be integrated into the project design and protected from animals through adequate fencing and sequestration (inspected by an Ecologist or ECO).*

From a minimum standard and methodological perspective, the survey effort was sufficient to produce a reasonably representative set of data from which to formulate a professional opinion, albeit in the absence of long-term monitoring data. The study area is located in a region dominated by natural to semi-natural, albeit somewhat disturbed habitats, including an abundance of tall roosts. No obvious drainage lines were present.

In summary, the specialist can see no reason why the intended facility cannot proceed in accordance with the aforementioned recommendations and legislation.”

According to the Heritage Impact Assessment, the heritage specialist concluded: *“The study area has a flat topography with no major topographic focal points that would have attracted human occupation in antiquity and is considered to be of low heritage potential. This was confirmed during the field survey, and no archaeological sites of significance were noted, and finds were limited to isolated Stone Age lithics that are out of context and can be attributed to background scatter (Orton 2016) that is of low heritage significance.*

According to the SAHRA Paleontological sensitivity map, the development footprint is of insignificant paleontological significance, and no further studies are required for this aspect.

The impact to heritage resources is low, and the project can be authorised provided that the recommendations in this report are adhered to and based on the South African Heritage Resource Authority (SAHRA) 's approval.”

The EWOC is unique to Africa in that the Centre will be offering one of the first mass collaborative initiatives where private wildlife veterinary specialists will work as a team to encourage improvement on current wildlife veterinary medicine and surgery.

The fully equipped hospital facilities will not only cater for the treatment of wildlife species but will also allow for specialist post-operative care and rehabilitation. This makes this project one of a kind where treatment, rehabilitation and release will be done under the guidance and supervision of specialists around the world, paving the way for new and innovative ideas and research.

Another aspect that makes this project unique is that rare and endangered species will be researched with a special focus on reproduction.

The following conservation and community values are associated with the realisation of the EWOC:

Conservation values:

- 🌱 *Veterinary hospital*: first of its kind in Africa that will be fully equipped for any emergencies and long term care.
- 🌱 *Rehabilitation conservation biology*: New science based on sound scientific principles to be tested within an intact ecosystem.
- 🌱 *Research*: Database collection on free-roaming wildlife, including medicine and surgery.
- 🌱 *Sharing knowledge*: collaborate with the greater local and international conservation community to encourage improvement on wildlife handling, treatment and rehabilitation.

Community values:

- 🌱 Job creation.
- 🌱 Community engagement and conservation programmes.
- 🌱 Basic veterinary services and vaccinations (collaboration with government CCS programme).
- 🌱 Disease prevention: close interface between the community and DGR.

Therefore, there is no good reason to consider an alternative than approval. The final preferred alternative is based on the optimal land use of the property and the relatively minor impacts associated with the proposed activities. In addition, the proposed rehabilitation and mitigation measures further minimise and/ or remove the potential impacts to the receiving environment due to the pre-construction, construction, and operational activities.

No-go alternative (compulsory)

If the status quo is maintained, the current impacts will remain. No additional soil erosion or vegetation clearance would occur, and no additional nuisances to the neighbours. However, the significant issue is that the property would not be productive in terms of eco-tourism as per the DGR objectives. Furthermore, no job opportunities will be created, and no contribution will be made to the upliftment of the community and infrastructure development.

Alternative B

Not Applicable.

Alternative C

Not Applicable.

For more alternatives please continue as alternative D, E, etc.

SECTION E: RECOMMENDATION OF PRACTITIONER

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

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

Not Applicable.

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 department in respect of the application:

This BAR has identified and assessed the potential biophysical and socio-economic impacts associated with the proposed development (i.e. the development of the Endangered Wildlife Operational Centre), located on Portion 6 of Farm Ruimte-74 in the Dinokeng Game Reserve, Limpopo Province).

In terms of NEMA, the EAP is required to provide an opinion as to whether the activity should or should not be authorised. In this section, a qualified opinion is presented, and in this regard, Legacy EMC believes that sufficient information is available for LEDET to make a decision.

The proposed development has and will result in unavoidable adverse environmental impacts, although these are of relatively limited intensity, given the disturbed nature of the project area, which has largely been transformed through previous anthropogenic activities. Consequently, none of these adverse impacts is considered unacceptably significant, and all can be managed to tolerable levels by effectively implementing the recommended mitigation measures. In addition, the proposed development will provide socio-economic benefits due to the optimal utilisation of the property, which is consistent with the objectives of the DGR.

Working on the assumption that the EWOC is committed to ensuring that the proposed development is undertaken to high standards, which shall be achieved through the implementation of the recommended mitigation measures, Legacy EMC believes, and the BAR demonstrates, that adverse impacts can be reduced to levels compliant with national (and international) standards or guidelines.

The fundamental decision is whether to allow the development, which brings socio-economic benefits and is generally consistent with development policies for the area, but which may have limited biophysical impacts.

Legacy EMC believes that the specialist studies have shown that the proposed development is generally acceptable. The BAR has also assisted in the identification of essential mitigation measures that will mitigate the impacts associated with these components to within tolerable limits.

General conditions proposed:

- 🌀 All mitigation measures, as described in this report, should be adhered to by the EWOC (these measures have been incorporated in the EMPr).
- 🌀 The conditions of the Record of Decision from LEDET should be incorporated into the EMPr, and be implemented as such.
- 🌀 The recommendations of the specialist studies, as listed and to be attached in the appropriate appendices of the Basic Assessment Report, must be implemented.
- 🌀 The EMPr, as attached to this document, should be part of the contractors' contractual documents. The

project manager must also account for the cost of this document's implementation before construction takes place.

In conclusion, Legacy EMC is of the opinion that on purely 'environmental' grounds (i.e. the project's potential socio-economic and biophysical implications), the application as it is currently articulated should be approved, provided the essential mitigation measures are implemented.

Is an EMPr attached?

YES NO

The EMPr must be attached as Appendix F. **Attached as Appendix F.**

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s) **[Attached]**

Appendix B: Photographs **[Attached]**

Appendix C: Facility illustration(s) **[Refer to Appendix A1 – A3]**

Appendix D: Specialist reports **[Attached]**

Appendix E: Comments and responses report **[To be provided in the Final BAR]**

Appendix F: Environmental Management Programme (EMPr) **[Attached]**

Appendix G: Site Sensitivity And Specialist Verification Report (SSVR) **[Attached]**

Appendix H: Enclosure Specifications **[Attached]**

Appendix I: DGR Management Policies **[Attached]**

Appendix J: HCRW Training Booklet [Compass Waste] **[Attached]**

Appendix K: Proof of Submission to SAHRA **[Attached]**

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, Lauren Ruth Abrahams declare that I –

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (h) will keep a register of all interested and affected parties that participated in a public participation process; and
- (i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.



Signature of the Environmental Assessment Practitioner:

Legacy Environmental Management Consulting (Pty) Ltd

Name of company:

21 February 2023

Date: