

Draft Basic Assessment Report

Proposed Development of a Staff Village near South Gate in Lapalala Wilderness Reserve, Limpopo Province



Prepared by:



June 2018

Table of Contents

SECTION A: ACTIVITY INFORMATION	3
1. ACTIVITY DESCRIPTION	3
2. FEASIBLE AND REASONABLE ALTERNATIVES	3
3. ACTIVITY POSITION	4
4. PHYSICAL SIZE OF THE ACTIVITY	5
5. SITE ACCESS	5
6. SITE OR ROUTE PLAN	6
7. SITE PHOTOGRAPHS	6
8. FACILITY ILLUSTRATION	6
9. ACTIVITY MOTIVATION	7
10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES	10
11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT	14
12. WATER USE	16
13. ENERGY EFFICIENCY	16
SECTION B: SITE/AREA/PROPERTY DESCRIPTION	17
1. GRADIENT OF THE SITE	18
2. LOCATION IN LANDSCAPE	18
3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE	19
4. GROUND COVER	19
5. LAND USE CHARACTER OF SURROUNDING AREA	20
6. CULTURAL/HISTORICAL FEATURES	21
7. BIODIVERSITY	21
8. VISUAL	24
9. PALAEOLOGICAL	25
SECTION C: PUBLIC PARTICIPATION	25
1. ADVERTISEMENT	25
2. CONTENT OF ADVERTISEMENTS AND NOTICES	26
3. PLACEMENT OF ADVERTISEMENTS AND NOTICES	26
4. DETERMINATION OF APPROPRIATE MEASURES	27
5. COMMENTS AND RESPONSE REPORT	27
6. AUTHORITY PARTICIPATION	27
7. CONSULTATION WITH OTHER STAKEHOLDERS	28
SECTION D: IMPACT ASSESSMENT	29
1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES	29
2. 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	29
3. ENVIRONMENTAL IMPACT STATEMENT	35
SECTION E: RECOMMENDATION OF PRACTITIONER	37
SECTION F: APPENDIXES	39

List of Appendices

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

D.1: Terrestrial Ecology Report

D.2: Heritage Impact Assessment

D.3: Visual Impact Assessment

D.4: Paleontological Impact Assessment

Appendix E: Public Participation

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Impact Assessment

Appendix H: Other information

FOREWORD

This report constitutes the **Draft Basic Assessment Report**, and has been circulated digitally for Stakeholder Comment on 6 July 2018.

NuLeaf Planning and Environmental would like to thank all Stakeholders for their participation and input into this process to date, and hereby invite Stakeholders to review this draft report and to provide feedback, input, concerns and comments.

All written comments received, including NuLeaf's response to each, will be captured in a Comments and Responses Register, which will be made available to all I&AP's and included in the Final Basic Assessment Report for submission to the Limpopo Department of Economic Development, Environment and Tourism.

All comments on the Draft BAR must be **in writing** and must reach NuLeaf by no later than close of business on **6 August 2017**.

Please mark all comments for the attention of:

Bryony van Niekerk
Email: bryony@nuleafsa.co.za
Tel: (012) 753 5792
Fax: (086) 571 6292

ACRONYMS AND ABBREVEATIONS

BA:	Basic Assessment
BAR:	Basic Assessment Report
CBA:	Critical Biodiversity Area
CMP:	Construction Management Plan
DWS:	South African National Department of Water and Sanitation
EA:	Environmental Authorisation
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EIR:	Environmental Impact Report
EMPr:	Environmental Management Programme
EMS:	Environmental Management System
EO:	Environmental Officer
I&AP:	Interested and Affected Party
IDP:	Integrated Development Plan
IEM:	Integrated Environmental Management
LED:	Local Economic Development
NEMA:	National Environmental Management Act, Act No. 107 of 1998
NEMPAA:	National Environmental Management: Protected Areas Act, Act No. 57 of 2003
NPAES:	National Protected Area Expansion strategy
OMP:	Operational Management Plan
SAHRA:	South African Heritage Resources Agency
UNESCO:	United Nations Educational, Scientific and Cultural Organization

GLOSSARY OF TERMS

Alien Vegetation:	Alien vegetation defined as undesirable plant growth which shall include, but not be limited to all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations.
Alien Species:	A plant or animal species introduced from elsewhere: neither endemic nor indigenous.
Alternatives:	<p>In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to:</p> <ul style="list-style-type: none">(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 activity;(d) The technology to be used in the activity; and(e) The operational aspects of the activity
Applicant:	Any person who applies for an authorization to undertake an activity or to cause such activity to be undertaken as contemplated in the National Environmental Management Act (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010.
Buffer zone:	Is a collar of land that filters out inappropriate influences from surrounding activities, also known as edge effects, including the effects of invasive plant and animal species, physical damage and soil compaction caused by trampling and harvesting, abiotic habitat alterations and pollution. Buffer zones can also provide more landscape needed for ecological processes, such as fire.
Construction Activity:	Any action taken by the Contractor, his subcontractors, suppliers or personnel during the construction process.
Ecology:	The study of the inter relationships between organisms and their environments.
Environment:	All physical, chemical and biological factors and conditions that influence an object and/or organism.
Environmental Impact:	An Impact or Environmental Impact is the degree of change to the environment, whether desirable or undesirable, that will result from the effect of a defined activity. An Impact may be the direct or indirect consequence of the activity and may be simple or cumulative in nature.
Environmental Impact Assessment:	Assessment of the effects of a development on the environment.
Environmental Management Programme:	A legally binding working document, which stipulates environmental and socio-economic mitigation measures that, must be implemented by several responsible parties throughout the duration of the proposed project.
Indigenous:	Means a species that occurs, or has historically occurred, naturally in a free state within the borders of South Africa. Species that have been introduced to South Africa as a result of human activity are excluded (South Africa (Republic) National Environmental Management: Biodiversity Act, 2004: Chapter 1).

Interested and Affected Party:	Any person, group of persons or organization interested in or affected by an activity contemplated in an application, or any organ of state that may have jurisdiction over any aspect of the activity.
Invasive vegetation:	Plant species that show the potential to occupy in unnatural numbers, any disturbed area, including pioneer species.
Mitigate:	The implementation of practical measures to reduce adverse impacts Public Participation Process: is a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters.
Public Participation:	The legislated process contemplated in terms GN R543, in which all potential interested and affected parties are informed of the proposed project and afforded the opportunity to input, comment and object. Specific requirements are listed in terms of advertising and making draft reports available for comment.
Road Reserve:	The road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.
Road Width:	The area within the Road Reserve including all areas beyond the Road Reserve that are affected by the continuous presence of the road i.e. the verge.
Red data plant species:	Are fauna and flora species that require environmental protection based on the World Conservation Union (IUCN) categories and criteria.
RoD:	Record of Decision pertaining to the Application for Environmental Authorisation issued by the Competent Authority. The RoD is legally binding on the Applicant and may contain a positive or negative decision on the Application as well as conditions and provisions for each.
Soil Compaction:	Mechanically increasing the density of the soil, vehicle passage or any other type of loading. Wet soils compact easier than moist or dry soils.
Species:	Means a kind of animal, plant or other organism that does not normally interbreed with individuals of another kind. The term "species" include any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population (South Africa [Republic] National Environmental Management: Biodiversity Act, 2004: Chapter 1).
The Contractor:	The contractor, as the developers agent on site, is bound by the ROD and EMP conditions through his/her contract with the developer, and is responsible for ensuring that conditions of the EMP and ROD are strictly adhered to at all times. The contractor must comply with all orders (whether verbal or written) given by the ECO, project manager or site agent in terms of the EMP.
The Developer:	Remains ultimately responsible for ensuring that the development is implemented according to the requirements of the EMP and the conditions of the Environmental Decision throughout all phases of the project.
The Environmental Control Officer (ECO):	The ECO is appointed by the developer as an independent monitor of the implementation of the EMP i.e. independent of the developer and contractor.
The Environmental Officer (EO):	The Contractor shall submit to the Site Agent a nominated representative of the Contractor as an EO to assist with day to day monitoring of the construction activities for the contract.

Vegetation:	Is a collective word for plants occurring in an area.
Vulnerable:	A taxon is 'Vulnerable' when it is not 'Critically Endangered' or 'Endangered' but is facing a high risk of extinction in the wild in the medium term future.
Watercourse:	A river or spring; a natural channel in which water flows regularly or intermittently; a wetland, lake or dam into which, or from which, water flows; and any collection of water which the Minister may by notice in the Government Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks" (South Africa [Republic] National Water Act, 1998).

EXECUTIVE SUMMARY

The proposed development entails the construction of a staff village to house staff that will service certain Custodian Sites. The staff village, located on Portion 2 Welgelegen 647 LR, will house staff in studio, 1 bedroom and 2 bedroom communal houses. The staff village will also consist of the following; A Managers House, communal kitchen, dining and recreational areas, swimming pool, laundry room, boma, service yard, maintenance store/workshop, and lastly a vegetable garden. Accommodation units will be tented placed on raised platforms, while the kitchen, laundry room and other service infrastructure will be brick. Electricity will be via solar panels. All associated civil infrastructure (water, electricity and waste treatment) will be included. No alternatives are under consideration for the proposed staff village due to the location of the site and land ownership.

Lapalala Wilderness Reserve is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened**. It is not situated in any floristic centres of endemism and is not listed as a Threatened Ecosystem. The Limpopo Province Biodiversity Conservation Assessment classifies the proposed Staff Village Site and most of the Lapalala Wilderness and general surroundings as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013). Only one conservation-important plant species was recorded during fieldwork, namely *Boscia albitrunca*, which is **protected** under the National Forests Act (No. 30 of 1998). Four plant species of conservation concern potentially occur, three Vulnerable-listed mammal species (Hippopotamus, Black Rhinoceros and Leopard) and three Near Threatened species (Honey Badger, White Rhinoceros and Brown Hyaena) potentially occur.

An environmentally-friendly and tread light approach will be encouraged for the proposed Staff Village development in terms of the design and layout. A 32 m buffer will be respected with regard to the wetland and drainage line located in the eastern portion of the site.

Majority of the proposed site is regarded as having a **moderate** biodiversity value, with the exception of the existing staff accommodation and access gate which has a **low** biodiversity value.

No cultural heritage sites were recorded for the Staff Village.

Sewage treatment will be via JoJo septic tanks and soak aways/French drains. These will be located at least 50 m from the drainage line. The environmental impacts will be minimal, and this closed and self-contained system does not pose a threat to the ground or surface water.

The proposed development site is acceptable for development and is not fatally flawed in any way. The construction impacts, if effectively managed according to the mitigation measures proposed in this report, the specialist reports and the draft EMPr will have a predominately **low** residual significance rating. **Moderate** post mitigation significance ratings are anticipated in terms of loss of areas classified as CBA1 due to vegetation clearing. It should be noted, however, that this impact is expected to be minimal owing to the fact that the accommodation units will be on raised platforms, thereby reducing the amount of vegetation cleared. Similarly, operational impacts can also be mitigated and will result in **low** post mitigation significance ratings.

Positive impacts include job creation and employment opportunities for both the construction and operational phases, as well as, skills transfer and development.

In light of the above discussion, it is recommended that the proposed Staff Village at Lapalala Wilderness Reserve be supported on the condition that all mitigation measures mentioned in this report, the specialist reports and the draft EMPr are implemented and adhered to throughout the project lifecycle.



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:

--

NEAS Reference Number:

Date Received:

Due date for acknowledgement:

Due date for acceptance:

Due date for decision

Kindly note that:

(For official use only)

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:-

<u>Postal Address:</u> Central Administration Office Environmental Impact Management P. O. Box 55464 POLOKWANE 0700	<u>Physical Address:</u> Central Administration Office Environmental Affairs Building Cnr Suid and Dorp Streets POLOKWANE 0699
<p>Queries should be directed to the Central Administration Office: Environmental Impact Management:-</p> <p>For attention: Mr E. V. Maluleke</p> <p>Tel: (015) 290 7138/ (015) 290 7167</p> <p>Fax: (015) 295 5015</p> <p>Email: malulekeev@ledet.gov.za</p>	

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

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 proposed development entails the construction of a staff village to house staff that will service certain Custodian Sites. The staff village, located on Portion 2 Welgelegen 647 LR, will house staff in studio, 1 bedroom and 2 bedroom communal houses. The staff village will also consist of the following:

- Managers House
- communal kitchen
- dining and recreational areas
- swimming pool
- laundry room
- boma
- service yard
- maintenance store/workshop
- vegetable garden

Accommodation units will be tented placed on raised platforms, while the kitchen, laundry room and other service infrastructure will be brick.

Electricity will be via solar panels. All associated civil infrastructure (water, electricity and waste treatment) will be included.

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;

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.

- (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 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.

No alternatives are under consideration for the proposed staff village due to the location of the site and land ownership.

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

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.

Alternative:	Latitude (S):			Longitude (E):		
Preferred Alternative (preferred or only site alternative) West point	25°	55'	56.47"	28°	20'	15.60"
Preferred Alternative (preferred or only site alternative) Centre point	23°	56'	2.41"	28°	20'	29.67"
Preferred Alternative (preferred or only site alternative) East point	23°	56'	7.56"	28°	20'	43.03"

In the case of linear activities:

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.

4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1² (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

or,

for linear activities:

Size of the activity:

15 000 m ²
m ²
m ²

Length of the activity:

Alternative:

Alternative A1 (preferred activity alternative)

m

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

Size of the site/servitude:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

m ²
m ²
m ²

5. SITE ACCESS

Does ready access to the site exist?

YES	
	m

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

Describe the type of access road planned:

An existing 2 spoor track leads to the proposed Staff Village site.

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.

² "Alternative A.." refer to activity, process, technology or other alternatives.

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;
- 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.

Please refer to Appendix A.

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.

Please refer to Appendix B.

8. FACILITY ILLUSTRATION

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

Please refer to Appendix C.

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 17 million
What is the expected yearly income that will be generated by or as a result of the activity?	R 0
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development phase of the activity?	20
What is the expected value of the employment opportunities during the development phase?	R 2 million
What percentage of this will accrue to previously disadvantaged individuals?	60%
How many permanent new employment opportunities will be created during the operational phase of the activity?	70
What is the expected current value of the employment opportunities during the first 10 years?	R 15 million
What percentage of this will accrue to previously disadvantaged individuals?	60%

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	
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	YES	
	<p>Lephalale Local Municipality Integrated Development Plan (IDP) recognizes that the tourism industry plays a vital role in the local economy and will most likely continue to grow, particularly with regard to the hunting and ecotourism industries. The area is renowned for hunting, wildlife and scenic beauty and nature reserves, sports and adventure. However, a major challenge faced by the tourism industry in the area is the lack of visitors to the region in the summer months.</p> <p>One way in which to combat this issue is to increase the tourism offerings in the region, as well as, diversifying the tourism products.</p>		
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:			
i.	Does the proposed land use / development fit the surrounding area?	YES	
ii.	Does the proposed land use / development conform to the relevant structure plans,	YES	

	Spatial development Framework, Land Use Management Scheme, and planning visions for the area?		
	<p>The Waterberg Spatial Development Plan (SDP) recognizes that the Waterberg Biosphere Reserve plays a pivotal role in conservation and eco-tourism in the Waterberg District Municipality. It also recognizes that it is important that the environmental heritage, conservation areas, biodiversity hotspots and ecologically sensitive areas are actively protected, managed, and enhanced to ensure that they are not adversely affected by other activities. Permitted activities within the Biosphere Reserve includes ecotourism, of which the proposed development of a staff village to service certain Custodian sites/ commercial lodges within Lapalala Wilderness Reserve falls under. Also of note, is that the SDP acknowledges the important role that the private sector and land owners play in tourism development.</p> <p>The Waterberg District Environmental Management Framework (EMF) identifies various zones within the district. Lapalala Wilderness falls within Zone 1: Protection of natural vegetation, scenic landscape and rock paintings areas, with limited appropriate tourism, and Zone 2: Nature and cultural tourism focus areas within a high quality natural setting. Both of these zones allow for some sort of low impact, ecotourism developments of which staff accommodation falls under.</p>		
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	
	The benefits of the proposed development are positive, contributing to economic growth and diversification of the both the Lapalala Wilderness and the regions tourism offerings. Additionally, approximately 70 jobs will be created during the construction phase and approximately 65 jobs will be created in the operational phase which is ideal in an area such as Lephalale where the employment rate is high.		
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?		NO
	The proposed site is already impacted upon somewhat owing to staff accommodation units already constructed within the site. The staff accommodation units will be limited to single storey and natural materials and colours will be used so as to blend into the natural environment. The units themselves will also be tented and constructed on raised platforms to minimize the clearing of vegetation. Additionally, in total, only approximately 10 hectares out of the 45 000 hectares of the Reserve will be impacted upon.		
vi.	Will the proposed land use / development set a precedent?		NO

vii.	Will any person's rights be affected by the proposed land use / development?	<input type="checkbox"/>	NO
viii.	Will the proposed land use / development compromise the "urban edge"?	<input type="checkbox"/>	NO
	The urban edge will not be compromised as the proposed development site is not located within a built environment. Lapalala Wilderness Reserve is a reserve which is currently in the process of being formally declared as a Protected Area in terms of NEMPAA.		
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	<input type="checkbox"/>
ii.	Explain: The benefits of proposed project to the society in general include the following: <ul style="list-style-type: none"> • Contributing to local economic growth through the establishment of a viable economic activity. • Contributing to the ongoing conservation of Lapalala Wilderness. The increase of local revenue will allow for the continued conservation and protection of the area. • Contributing to the job creation within a rural area. The increase of local jobs will allow for the continued economic development and growth of the area. 		
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES	<input type="checkbox"/>
iv.	Explain: The proposed development of the staff accommodation will benefit the local communities in terms of employment opportunities and job creation. It is estimated that approximately 70 jobs will be created during the construction phase and 65 jobs during the operational phase. Skills development and training will also be a benefit.		

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	APPLICABILITY TO THE PROJECT	ADMINISTERING AUTHORITY	DATE
LEGAL FRAMEWORK			
Constitution of Republic of South Africa (Act No.108 of 1996):	This is the fundamental law of South Africa, setting out the Bill of Rights as well as the relationship of various government structures to each other.	National Government	1996
Conservation of Agricultural Resources Act (Act No. 43 of 1983):	Provides for control over the utilization of the natural agricultural resources of the Republic. The project will be required in terms of this legislation to ensure that: <ul style="list-style-type: none"> ▣ The soil mantle is protected and conserved, ▣ The natural water sources are protected, ▣ Vegetative cover is conserved and weeds and invader plants are removed from the site. 	Department of Agriculture	1983
National Environmental Management Act (Act No. 107 of 1998)	To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by organs of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith.	Department of Environmental Affairs	1998
National Environmental Management: Protected Areas Act (Act No. 57 of 2003):	The Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas, and for matters in connection therewith. While, Lapalala Wilderness is not a formally declared protected area, it does fall within the Waterberg Biosphere Reserve as recognized by UNESCO and an application for proclamation has been submitted.	Department of Environmental Affairs	2003
National Environmental Management:	The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework set out by NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation	Department of Environmental Affairs	2004

Biodiversity Act (Act No. 10 of 2004):	strategy, the National Spatial Biodiversity Assessment was developed (see below). The Act lists species that are threatened or require protection to ensure their survival in the wild, while regulating the activities, which may involve such listed threatened or protected species and activities which may have a potential impact on their long-term survival. The Act has listed flora and fauna species.		
National Spatial Biodiversity Assessment, 2011:	The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels.	Department of Environmental Affairs	2011
National Forests Act (Act No. 84 of 1998):	This Act provides for the management, utilisation and protection of forests through the enforcement of permitting requirements associated with the removal of protected tree species, as indicated in a list of protected trees (first promulgated in 1976 and updated since).	Department of Agriculture, Forestry and Fisheries	1998
National Veld and Forest Fire Act (Act No. 101 of 1998)	The purpose of this Act is to prevent and combat veld, forest and mountain fires throughout the Republic. The Act provides for a variety of institutions, methods and practices for achieving this purpose.	Department of Water Affairs	1998
National Heritage Resources Act (Act No. 25 of 1999)	The National Heritage Resources Act legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 hectares (ha) and where linear developments exceed 300 metres in length. Potential impact on cultural heritage, paleontological or archaeological resources through excavation activities or disturbance will need to be monitored. Permits may be required per the National Heritage Resources Act (Act No. 25 of 1999).	South African Heritage Resources Agency (SAHRA)	1999
The National Water Act (Act No. 36 of 1998)	This Act aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. The development will have to ensure that local water resources are protected, used, developed, conserved, managed and controlled in a responsible way.	Department of Water Affairs	1998
The National Water Services Act (Act No. 108 of 1997)	The Act legislates the necessity to provide for the rights of access to basic water supply and basic sanitation; to provide for the setting of national standards and of norms and standards for tariffs; to provide for water services development plans; to provide a regulatory framework for water services institutions and water services intermediaries; to provide for the establishment and disestablishment of water boards and water services committees and their powers and duties; to provide for the monitoring of water services and intervention by the Minister or by the relevant Province; to provide for financial assistance to water services institutions; to provide for certain general powers of the Minister; to provide for the gathering of information in a national information system and the distribution of that information; to repeal certain laws; and to provide for matters connected therewith.	Department of Water Affairs	1997
National	The Waste Act reforms the law regulating waste management in order to protect the	Department of	2008

Environmental Management Waste Act (Act No. 59 of 2008)	environment by providing reasonable measures for the prevention of pollution and ecological degradation. The development will be subject to this Act in terms of the disposal of waste.	Environmental Affairs	
Hazardous Substances Act (Act No. 15 of 1973)	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products; to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.	Department of Health	1973
National Environmental management Air Quality Act (Act No. 39 of 2004)	To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.	Department of Environmental Affairs	2004
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993):	The purpose of this Act is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with, the activities of persons at work.	Department of Labour	1993
Integrated Environmental Management Information Series	IEM is a key instrument of NEMA and provides the overarching framework for the integration of environmental assessment and management principles into environmental decision-making. The aim of the information series is to provide general information on techniques, tools and processes for environmental assessment and Management. ERM have referred to these various documents for information on the most suitable approach to the environmental assessment process for the proposed development.	Department of Environmental Affairs	1992
REGIONAL PLANNING POLICIES			
Waterberg District Municipality Spatial Development Framework	The Waterberg SDF has identified certain development objectives and strategies: 1. Promotion and facilitation of economic development: support and develop strategic locations that contain the right characteristics inclusive of areas such as the biosphere and tourism nodes. 2. The sustainable management of the natural environmental assets and heritage: identify and isolate valuable natural assets, ensure continuous ecological and open space systems,	Waterberg District Municipality	2009

	<p>ensure conservation and sustainable management of the biosphere and other conservation areas.</p> <p>3. The promotion of tourism development: identify tourism development opportunities, ensure linkages to tourism development areas, and recognise the important role the private sector and land owners play in tourism development.</p>		
Lephalale Local Municipality Integrated Development Plan	Tourism is one of three key clusters in the Lephalale LM, and the importance thereof, is likely to continue to grow. This is likely to be related to the hunting and ecotourism industries. The location of Lephalale provides unique opportunities for economic development and tourism in particular. The area is renowned for hunting, wildlife, scenic beauty and nature reserves. The LM has identified key projects to aid in the development of tourism inclusive of tourism awareness campaigns, infrastructure to tourism routes and destinations.	Lephalale Local Municipality	2014-2016
Waterberg District Environmental Management Framework	The Waterberg Biosphere Reserve, as recognized by UNESCO, provides an opportunity to promote biodiversity conservation, as well as, advancing ecotourism. The Waterberg EMF identifies environmental management zones of which zones 1 (protection of natural vegetation, scenic landscape and rock painting areas, with limited appropriate tourism) and zone 2 (nature and cultural tourism focus areas within a high quality natural setting) have relevance.	Waterberg District Municipality	2010

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

< 30 m³

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

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

Items that can be recycled will be separately stored for collection. Other solid waste will be collected and stored in fenced "scavenger proof" areas at the development. The solid waste will be transported to and deposited at the closest registered disposal site by a registered waste disposal contractor.

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

The solid waste will be transported to and deposited at the closest registered disposal site by a registered waste disposal contractor.

Will the activity produce solid waste during its operational phase?

YES

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

< 30 m³

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

Items that can be recycled will be separately stored for collection. Other solid waste will be collected and stored in fenced "scavenger proof" areas at the development. The solid waste will be transported to and deposited at the closest registered disposal site by a registered waste disposal contractor.

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

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

NO

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

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

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

NO

municipal sewage system?

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

	m ³
Yes	

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

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

Sewage treatment will be via JoJo septic tanks and French drains/ soakaways.

The JoJo Septic Tank is a prefabricated and rotary-moulded polyethylene digester tank. It is available in liquid capacities of 1250, 1500, 1750, 2000, 2500 litres. It is fitted with a 110 mm inlet and 50 mm outlet pipes and a 390 mm diameter lid which is filled with concrete after installation of the septic tank.

The digester facilitates the separation of solids and biodegradation (both in the form of floating scum and settled sludge), from the liquid fraction of the waste to a level that the effluent from the digester can be discharged into a soak-away or French drain.

The placement and sizes of the sewage treatment systems will be based on the location of the accommodation units and determined by how many units will share a tank.

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

NO

If yes, provide the particulars of the facility:

Facility name:

Contact person:

Postal address:

Postal code:

Telephone:

E-mail:

	Cell:	
	Fax:	

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

The Lapalala Staff Village will also be encouraged to feature sustainable systems such as:

- Dual flushing systems
- Low flow taps and water using fixtures
- Automatic Pulse Meters for water management and leak detection. Systems should be in place to track water received and water used in each bathroom, kitchens and other points

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

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:

No emissions, other than that of exhaust emissions and dust associated with the removal of stabilizing vegetation will be released into the atmosphere.

11(d) Generation of noise

Will the activity generate noise?

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:

Standard construction noise (i.e. heavy vehicles and site work) occurred during the construction phase. During operations, minimal noise will be generated at the staff village.

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

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:

750 000 Litres

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

NO

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.

13. ENERGY EFFICIENCY

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

Design measures to ensure that the Lapalala Staff Village is energy efficient may include the following:

- Lighting: LED lighting should be installed throughout the development
- Hot water: Hot water may be provided by means of a heat pump.
- Cooking: Gas will be utilized for cooking purposes

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

Lapalala Wilderness Reserve is completely off-grid. The proposed staff village will also be powered by solar power with a backup generator.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

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

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

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

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

YES	
-----	--

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.

Property
description/physical
address:

Portion 2 Welgelegen 647 LR

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

Nearest Town

Nearest town is Vaalwater

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:

Agriculture

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?

Must a building plan be submitted to the local authority?

	NO
YES	

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)

Please refer to Appendix A.1 for a broad locality map.

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

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			

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)	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Dolomite, sinkhole or doline areas	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Seasonally wet soils (often close to water bodies)	<input checked="" type="checkbox"/> YES <input type="checkbox"/>	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Unstable rocky slopes or steep slopes with loose soil	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Dispersive soils (soils that dissolve in water)	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Soils with high clay content (clay fraction more than 40%)	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Any other unstable soil or geological feature	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
An area sensitive to erosion	<input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> 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).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

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

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

5. 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	X	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	X
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	X
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?

--

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:	
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:	
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?

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

Please note that no Stone Age settlements, structures, features, assemblages or artefacts were recorded during the survey. Neither were any Rock art sites or Iron Age settlements.

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

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

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

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

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.

Please Refer to Appendix D.2 for the full Heritage Report.

7. BIODIVERSITY

A Terrestrial ecology study and biodiversity value assessment was conducted by Ecorex in May 2018.

- Flora

The study area is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Vegetation structure comprises low to mid-high woodland that is dominated by deciduous, broad-leaved tree species, and has a grass-dominated herbaceous layer. Soils are mostly sandstone, subordinate conglomerate, siltstones and shale of the Kransberg Subgroup. Dominant canopy species within this vegetation type include *Burkea africana*, *Combretum apiculatum*, *Acacia caffra* and *Acacia robusta*. Other commonly recorded tree species include *Heteropyxis natalensis*, *Combretum molle*, *Pseudolachnostylis maprouneifolia* and *Terminalia sericea*. Common shrubs include *Dichrostachys cinerea*, *Euclea crispa* and *Olea capensis*. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened** because of a low level of transformation (3%) and because 9% of the protection target of 24% is conserved in Marakele National Park and Moepel Nature Reserve.

The study area is not situated in any floristic centres of endemism and is not within any listed Threatened Ecosystem.

While the Terrestrial Ecosystem Status of the vegetation types in the study area is Not Currently Threatened, the Limpopo Province Biodiversity Conservation Assessment (LPBCA) classifies most of the study area and general surroundings as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013).

A total of 105 plant species in 42 families was recorded during fieldwork. None of these are regarded as threatened (i.e. Vulnerable, Endangered or Critically Endangered) or as additional species of conservation concern (i.e. Near Threatened, Critically Rare, Rare, Declining or Data Deficient1). The tree *Boscia albitrunca* is **protected** under the National Forests Act (No. 30 of 1998).

Eight plant species of conservation concern potentially occur within the study area. These plants have either been recorded from similar habitat within the quarter-degree grid 2328 CD and surrounding grids or are widespread in Waterberg Mountain Bushveld and are likely to occur within the study area. Three of these have a moderate chance of occurring within the study area, namely Transvaal Saffron *Elaeodendron transvaalense*, Snake-root *Drimia sanguinea* and Olifants River Bushwillow *Combretum petrophilum*.

Two untransformed vegetation communities were identified within the proposed development site, namely *Combretum apiculatum* – *Terminalia sericea* Closed Woodland and *Peltophorum africanum* – *Sida cordifolia* Disturbed Open Woodland.

Combretum apiculatum – *Terminalia sericea* Closed Woodland:

Combretum apiculatum – *Terminalia sericea* Closed Woodland occurs over most of the study area, particularly the central and eastern. Closed Woodland covers just under 10 ha which equates to just less than 83 % of the area surveyed. The dominant canopy trees found are *Combretum apiculatum* subsp. *apiculatum* and *Terminalia sericea*. A number of additional canopy trees occur, including *Ziziphus mucronata*, *Combretum molle*, *Burkea africana*, *Peltophorum africanum*, *Pterocarpus rotundifolius* subsp. *rotundifolius*, *Heteropyxis natalensis* and *Pseudolachnostylis maprouneifolia*. The shrub layer is reasonably diverse, with *Grewia bicolor* var. *bicolor*, *G. flava*, *Rhoicissus revouillii*, *Combretum nelsonii*, *Coddia rudis*, *Dichrostachys cinerea* subsp. *africana*, *Euclea natalensis* subsp. *angustifolia* and *Gymnosporia buxifolia* being the most frequently encountered. Grasses are dominated by *Loudetia simplex* and various *Aristida* species. Herbaceous species are thinly distributed within this community, but include *Harpagophytum zeyheri* subsp. *zeyheri*, *Kyphocarpa angustifolia*, *Agathisanthemum bojeri* subsp. *bojeri* and *Zornia glochidiata*.

A total of 80 species (76 % of the entire list) was recorded from Closed Woodland during fieldwork, the higher of the two communities present. Species fidelity, which is closely linked to community uniqueness, is **high**, with 40 species (50 % of the community list) occurring nowhere else in the study area.

Closed Woodland was assessed as having **Moderate** Biodiversity Value through integration of Moderate Conservation Importance and Moderate Functional Importance scores. Only one conservation-important plant species was recorded during fieldwork, namely *Boscia albitrunca*, which is **protected** under the National Forests Act (No. 30 of 1998). Three species of conservation concern potentially occur, namely *Elaeodendron transvaalense* and *Drimia sanguinea* (both Near Threatened) and *Combretum petrophilum* (Rare).

Peltophorum africanum – *Sida cordifolia* Disturbed Open Woodland:

This vegetation community occurs in the western portion of the study area, in the region of the gate. The area has a moderate degree of disturbance through overgrazing. Open Woodland covers 1.4 ha which equates to approximately 11 % of the area surveyed. Trees are sparse but include *Peltophorum africanum*, *Gardenia volkensii* subsp. *volkensii* var. *volkensii*, *Strychnos madagascariensis*, *Terminalia sericea* and *Combretum molle*. Dwarf

shrubs dominate the ground level and are represented by *Sida cordifolia*, *Waltheria indica*, *Melhania acuminata* var. *acuminata* and *Lippia javanica*. The most common grasses found are typical of disturbed areas and include *Melinis repens*, *Cynodon dactylon*, *Aristida adscensionis* and *Heteropogon contortus*. The herb layer is reasonably diverse and includes *Agathisanthemum bojeri* subsp. *bojeri*, *Dicerocaryum senecioides*, *Felicia muricata* subsp. *muricata*, *Geigeria ornativa* subsp. *ornativa*, *Ruellia patula*, * *Gomphrena celosioides*, *Emilia transvaalensis*, *Zornia milneana* and *Stylosanthes fruticosa*.

A total of 64 species (61 % of the entire list) was recorded from Open Woodland during fieldwork, the lower of the two communities present. Species fidelity is **high**, with 25 species (39 % of the community list) occurring nowhere else in the study area.

Open Woodland was assessed as having **Moderate** Biodiversity Value through integration of Moderate Conservation Importance and Moderate Functional Importance scores. No conservation-important plant species were recorded during fieldwork, but one species of conservation concern potentially occurs, namely *Drimia sanguinea* (Near Threatened).

- Fauna

The study area is situated within the savanna biome within the c. 45 000 ha Lapalala Wilderness which is home to a wide diversity of naturally occurring and re-introduced mammal species, including many threatened species such as Black Rhinoceros (*Diceros bicornis minor*) and Hippopotamus (*Hippopotamus amphibius*). The mammal diversity for the reserve is **high**, although this includes small mammals such as rodents, insectivores and bats, most of which would not be located through active searching methods employed during daylight.

Thirty-one mammal species were recorded during fieldwork within the Lapalala Wilderness during a previous ECOREX survey, including a number of Vulnerable-listed species (McKenzie, 2016). A total of 35 **conservation-important** mammals potentially occur within the general vicinity of the proposed development footprint. Of these, 19 species are considered to be of **conservation concern**. Although none of these were confirmed during fieldwork, six species have a moderate or higher likelihood of occurrence and could potentially occur anywhere in natural habitat within the study area but due to the small size of the development footprint probably only as occasional visitors. These mammals are Black Rhinoceros (vulnerable), Hippopotamus (vulnerable), Leopard *Panthera pardus* (vulnerable), White Rhinoceros *Ceratotherium simum* (near threatened), Honey Badger *Mellivora capensis* (near threatened) and the Brown Hyaena *Parahyaena brunnea* (near threatened).

- Birds

Of the nine biomes in Southern Africa, the savannah biome supports the highest diversity of bird species within the sub-region. The study area, situated within the quarter-degree grid 2328 CD, has had 216 species recorded to date by the second Southern African Bird Atlas Projects (SABAP2).

Fifteen threatened or Near Threatened bird species potentially occur within the general vicinity of the study area. None of these were recorded during fieldwork. Two of the potentially occurring species with a moderate or high likelihood of occurring in the vicinity of the study area are threatened species, namely Martial Eagle *Polemaetus bellicosus* (endangered) and Lanner Falcon *Falco biarmicus* (vulnerable).

- Reptiles

The Waterberg supports a very **high diversity** of reptile species, with diversity levels ranking in the top 10% of all areas in South Africa. The two reptile groups showing the highest diversity include the lizards (20-41 species per QDS) and snakes (13-19 species per QDS) (Bates et al., 2014). Reptile endemism is moderate, with at least five endemic species present in the general area (Bates et al., 2014). Seventy-one species of reptiles have been recorded from the entire degree grid 2328.

Three of the potentially occurring reptiles are species of conservation concern. These include Orange-throated Flat Lizard (*Platysaurus monotropis*) which is classified as **Endangered**, Nile Crocodile (*Crocodylus niloticus*) which is classified as **Vulnerable** and is **protected** under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015) and Southern African Python (*Python natalensis*) which is listed as **Protected** under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015, Appendix 6). Nile crocodile has a Very Low likelihood of occurring within the study area due to lack of suitable open water habitat. Orange-throated Flat Lizard has a Low likelihood of occurrence due to the closest known population occurring further to the north of Lapalala and Southern African Python has a High likelihood of occurring anywhere within the study area although due to the small size of the area, it is likely to only occur irregularly. Only one reptile species were recorded during fieldwork, namely Bushveld Lizard (*Heliobolus lugubris*), a common and widespread species.

- *Frogs*

The Lapalala area supports a **moderately high** diversity of frog species, with levels of 11-20 species per QDS1. Frog endemism, however, is **very low** with no potentially occurring endemic species present in the area (Minter et al, 2004). Twenty-five frog species have been recorded from the degree grid 23282 and, on a finer scale, 14 have been recorded from the QDS 2328 CD3, within which the study area is situated.

None of the potentially occurring frog species have a conservation-important status. No frog species were recorded during fieldwork.

Please refer to Appendix D.1 for the full report.

8. VISUAL

A visual impact assessment was undertaken by NuLeaf Planning and Environmental in order to determine the possible visual impact of the proposed Lapalala Staff Village.

Land use within the study area is predominately private game farms and to a lesser degree agriculture. The study area is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Landover comprises low to mid-high woodland that is dominated by deciduous, broad-leaved tree species, and has a grass-dominated herbaceous layer.

The majority of the study area is sparsely populated, with the highest concentration of people living in the town of Vaalwater. The study area consists of a landscape that can be described as remote due to its considerable distance from any major metropolitan centres or populated areas. Settlements, where they occur, are usually rural homesteads and farmsteads.

The visual quality of the receiving environment within the study areas is high, by virtue of the vast and undeveloped nature of the environment. This lends a distinct sense of place to the area. This area is known as a tourist destination owing to its location in the Waterberg Biosphere Reserve and the Game reserves within the region.

Majority of the visual impact will occur within the boundaries of the Lapalala Wilderness Reserve, with a low visual impact occurring in certain areas to the south. Some visual impact has already occurred on the site as a result of the existing access control point and existing staff village. It is, therefore, expected that the visual impact associated with the upgrades to these structures will further contribute to the visual impact currently present to the affected farmsteads in these areas.

The high VAC of the Reserve and the low occurrence of sensitive visual receptors outside of the Reserve in close proximity, is of relevance and has affected the significance rating of the anticipated visual impacts.

Please refer to Appendix D.3 for the Visual Impact Report.

9. PALAEONTOLOGICAL

A desktop Palaeontological Impact Assessment was compiled for the proposed staff village.

Based on the geology and palaeontological record, the sandstones (rudites, arenites, lutites) are typical for the Sandriviersberg and Mogalakwena Formations of the Kransberg Subgroup, Waterberg Group (2000 – 180 Ma) and do not contain fossil plant, insect, invertebrate and vertebrate material. The sandstones of the underlying Makabeng Formation, recorded from just from one site near Marken, contain trace fossils (microbially induced sedimentary structures) but none has yet been reported from the formations in the project area. It is the opinion of the palaeontologist that there is zero chance of finding fossils in the project area.

Please refer to Appendix D.4 for the full report

SECTION C: PUBLIC PARTICIPATION

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.

- A list of interested and affected parties (I&APs), as well as, compliance authorities was compiled inclusive of Local and District Municipalities and local landowners
- Written notification of the proposed development, including a background information document, was sent to all identified I&AP's and Compliance Authorities on 11 May 2018.
- A printed advertisement was placed in the Mogol Post, a local publication, on the 11 May 2018.
- Site notices were placed at the main entrances to the affected property on 16 May 2018.

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.

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.

Please refer to Appendix E.4 for a full list of stakeholders.

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)
Lephalale Local Municipality	No
Waterberg District Municipality	No

LEDET	No
DWS	No

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 sub regulation 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?

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

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

--

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.

No issues have been raised to date.

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):

No issues have been raised to date.

2. 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.

All potential environmental impacts, both positive and negative, have been identified for the entire lifecycle of the project i.e. planning / design, construction and operations. The decommissioning of the proposed development is not anticipated and has therefore not been assessed.

Activity	Impact summary	Significance (post mitigation)	Proposed mitigation / comments
Alternative 1 (Preferred Alternative)			
Planning and Design Phase	Direct impacts:		
	Ground Water		
	None.		
	Surface Water		
	Risk to ecological function of the drainage line and wetland due to possible placement of structures and infrastructure within the habitat.	18 L	<ul style="list-style-type: none"> EMPr section 7.1 EMPr section 7.2
	Risk to hydrological function (quality and fluctuation properties) along the drainage line and wetland due to activity and disturbance near the watercourse.	18 L	
	Soil		
	Erosion risk to soils	27 L	<ul style="list-style-type: none"> EMPr section 7.1

			<ul style="list-style-type: none">• EMPr section 7.2
	Air		
	None.		
	Biodiversity (Flora)		
	Risk to critical biodiversity areas	33 M	<ul style="list-style-type: none">• EMPr section 7.1
	Risk to Waterberg Mountain Bushveld vegetation	22 L	<ul style="list-style-type: none">• EMPr section 7.2
	Risk to sensitive habitats	20 L	
	Destruction and damage to Red data species and protected trees.	20 L	
	Biodiversity (Fauna)		
	Risk of habitat fragmentation	18 L	<ul style="list-style-type: none">• EMPr section 7.1• EMPr section 7.2
	Land use and agricultural potential		
	None.		
	Heritage		
	None.		
	Visual		
	Risk to visual quality of the surrounding area and sense of place due to the development of structures and infrastructure within an otherwise natural environment.	33 M	<ul style="list-style-type: none">• EMPr section 7.2• EMPr section 7.3
	Risk of glare from high-tech and reflective materials used for solar panels.	30 L	
	Socio-economic		
	None.		
	Municipal services and traffic		
	None.		
	Indirect impacts:		
	None.		
	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Waterberg Mountain Bushveld vegetation	22 L	<ul style="list-style-type: none">• EMPr section 7.1• EMPr section 7.2
	Cumulative reduction of Red data species and protected trees.	24 L	
	Biodiversity (Fauna)		
	Cumulative loss of faunal habitat	20 L	<ul style="list-style-type: none">• Same as above
	Construction Phase	Direct impacts:	
Ground water			
Depletion of ground water		14 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2
Pollution and contamination of ground		14 L	<ul style="list-style-type: none">• EMPr section 8.3• EMPr section 8.7
Surface water			
Disturbance and loss of ecological function of the wetland and drainage line		24 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2
Pollution and contamination of surface water.		16 L	<ul style="list-style-type: none">• EMPr section 8.3

		<ul style="list-style-type: none">• EMPr section 8.4• EMPr section 8.5• EMPr section 8.6• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9• EMPr section 8.10
Soil		
Soil contamination and pollution.	18 L	<ul style="list-style-type: none">• Same as above
Soil erosion via wind and rain.	18 L	
Air		
Air pollution due to emissions from construction vehicles and equipment.	24 L	<ul style="list-style-type: none">• EMPr section 8.2• EMPr section 8.4• EMPr section 8.5• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9• EMPr section 8.10
Generation of dust owing to construction activities.	21 L	
Smoke generated from open fires used by workers for heating and cooking.	14 L	
Biodiversity (Flora)		
<i>Removal of exotic and declared invader species (positive impact).</i>	30 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2• EMPr section 8.3• EMPr section 8.4• EMPr section 8.5• EMPr section 8.6• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9• EMPr section 8.10
Loss of critical biodiversity areas	40 M	
Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	28 L	
Disturbance of sensitive habitats.	27 L	
Destruction and damage to Red data species and protected trees.	20 L	
Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas.	26 L	
Biodiversity (Fauna)		
Loss of faunal habitat which acts as a wildlife corridor	22 L	<ul style="list-style-type: none">• Same as above
Loss of general faunal habitat and ecological connectivity.	20 L	
Fauna mortality	18 L	
Poaching and snaring of faunal species by construction workers.	27 L	
Increased opportunity for smuggling of poached items.	27 L	
Land use and agricultural potential		
None		
Heritage		
<i>Possible discovery of new important artefacts (positive impact)</i>	24 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2
Damage to and / or destruction of archaeological, paleontological or historical artefacts unearthed during construction.	16 L	
Visual		
Visual impact of construction, lighting	21	<ul style="list-style-type: none">• EMPr section 8.1

and dust on sensitive visual receptors owing to the presence of construction equipment, camps and workers.	L	<ul style="list-style-type: none">• EMPr section 8.2• EMPr section 8.3• EMPr section 8.4
Visual impact of construction, lighting and dust on conservation areas within the region (Waterberg Biosphere Reserve).	12 N	<ul style="list-style-type: none">• EMPr section 8.5• EMPr section 8.6• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9• EMPr section 8.10
Socio-economic		
<i>Stimulation of the local economy, especially the local service delivery industry (positive impact)</i>	24 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9
<i>Short term employment and business opportunities and the opportunity for skills development and on-site training. (Positive impact).</i>	36 M	
Noise, dust and safety impacts and disturbance to adjacent landowners	21 L	
An increase in construction workers and associated increase in social problems for the community	16 L	
Increase in casual workers and associated increase in poaching.	24 L	
Increased risk of veld fires	21 L	
Municipal services and traffic		
Increase in traffic on the surrounding local	21 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2• EMPr section 8.7• EMPr section 8.8
Increase in the number and frequency of construction vehicles accessing the site	24 L	
Indirect impacts:		
Biodiversity (Flora)		
Loss of floral biodiversity, Red data species and protected trees	22 L	<ul style="list-style-type: none">• As above
Biodiversity (Fauna)		
Loss of faunal biodiversity	20 L	<ul style="list-style-type: none">• As above
Socio-economics		
Loss of property and threat to human life	16 L	<ul style="list-style-type: none">• As above
Traffic and Services		
Degradation of local roads due to the increase in the numbers of heavy vehicles.	21 L	<ul style="list-style-type: none">• As above
Cumulative impacts:		
Biodiversity (Flora)		
Cumulative loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	27 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2• EMPr section 8.3• EMPr section 8.4• EMPr section 8.5• EMPr section 8.6• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9
Loss of critical biodiversity areas	33 M	
Cumulative loss of ecological function of sensitive habitats.	26 L	
Cumulative reduction and damage to Red data species and protected trees.	24 L	

			<ul style="list-style-type: none">• EMPr section 8.10	
	Biodiversity (Fauna)			
	Cumulative loss of faunal habitat	24 L	<ul style="list-style-type: none">• As above	
	Socio-economic			
	<i>Community upliftment and the opportunity to increase the skill level in the area (positive impact).</i>	24 L	<ul style="list-style-type: none">• EMPr section 7.4• EMPr section 8.1• EMPr section 8.2• EMPr section 8.7• EMPr section 8.8• EMPr section 8.9	
	Services and traffic			
	Cumulative increase in traffic and the resultant noise, dust, and safety impacts on other road users	16 L	<ul style="list-style-type: none">• EMPr section 8.1• EMPr section 8.2• EMPr section 8.7• EMPr section 8.8	
Operational Phase	Direct Impacts:			
	Ground water			
	Depletion of ground water resources (water quality)	18 L	<ul style="list-style-type: none">• EMPr section 9.1• EMPr section 9.2• EMPr section 9.3• EMPr section 9.4• EMPr section 9.5	
	Pollution and contamination of ground water	22 L		
	Surface water			
	Disturbance and loss of ecological function of the habitat (physical structure) along the wetland and drainage	18 L		<ul style="list-style-type: none">• As above
	Pollution and contamination of surface water.	20 L		
	Disturbance and loss of hydrological function (quality and fluctuation properties) along the wetland and drainage line	18 L		
	Soil			
	Pollution and contamination of the soil	18 L	<ul style="list-style-type: none">• As above	
	Soil erosion	18 L		
	Air			
	Air pollution by emissions from increased numbers of game drive vehicles and private vehicles.	33 M	<ul style="list-style-type: none">• EMPr section 9.5	
	Biodiversity (Flora)			
	Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness	18 L	<ul style="list-style-type: none">• EMPr section 9.1• EMPr section 9.2• EMPr section 9.3• EMPr section 9.4• EMPr section 9.5• EMPr section 9.6	
	Loss of critical biodiversity areas	22 L		
	Disturbance of sensitive habitats	27 L		
	Destruction and damage to Red data species and protected trees	20 L		
	Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas in the event	22 L		

	that the rehabilitation process is not successful		
Biodiversity (Fauna)			
Loss of faunal habitat.	18 L	• As above	
Faunal disturbances and changes in distribution and abundance.	27 L		
Faunal mortality	20 L		
Poaching and snaring of fauna by staff.	24 L		
Land use and agricultural potential			
None.			
Visual			
Potential visual impact on sensitive visual receptors in close proximity to the proposed developments.	24 L	• EMPr section 9.5	
Potential visual impact on sensitive visual receptors within the region	20 L		
Potential visual impact on protected and conservation areas (i.e. the Waterberg Biosphere Reserve) within the study area.	8 N		
Potential visual impact of the solar panels on sensitive visual receptors in close proximity thereto	16 L		
The potential visual impact of safety and security lighting of the developments at night on sensitive visual receptors in close proximity	20 L		
Socio-economic			
<i>Stimulation of the local economy, especially the local service delivery industry (positive impact)</i>	33 M	• As above	
<i>Creation of long term employment and business opportunities as well as opportunities for skills development and transfer (positive impact)</i>	56 H		
<i>Creation of opportunities for local SMME's (positive impact)</i>	48 M		
Impact on adjacent land uses and activities	8 N		
Service and traffic			
<i>Operational cost of running services and infrastructure, specifically electricity (positive impact).</i>	28 L	• EMPr section 9.5	
Increase in traffic on the surrounding roads	30 L	• EMPr section 9.5	
Increase in the number and frequency of vehicles accessing the site	20 L		
Indirect impacts:			
Visual			
The potential visual impact of the development on the visual character of the landscape and sense of place of the region (particularly the Waterberg Biosphere Reserve).	18 L	• As above	

	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	22 L	<ul style="list-style-type: none">• EMPr section 9.1• EMPr section 9.2• EMPr section 9.3• EMPr section 9.4• EMPr section 9.5• EMPr section 9.6
	Cumulative disturbance of sensitive habitats	22 L	
	Cumulative reduction and damage to Red data species and protected trees.	28 L	
	Visual		
	Accumulation of built infrastructure in a natural environment.	22 L	<ul style="list-style-type: none">• EMPr section 9.5
	Socio-economic		
	<i>Creation of permanent employment and skills and development opportunities for members from the local community and creation of additional business and economic opportunities in the area. (positive impact)</i>	33 M	<ul style="list-style-type: none">• As above
	<i>Promotion of social and economic development in the local communities (positive impact)</i>	27 L	
	Services and traffic		
	Cumulative increase in traffic on the surrounding roads	18 L	<ul style="list-style-type: none">• EMPr section 7.1• EMPr section 9.2• EMPr section 9.5
	Cumulative increase in the number and frequency of vehicles accessing the site	22 L	
	Waste disposal practices will have an accumulative effect on the local landfill site's capacity to absorb waste.	22 L	
Decommissioning phase			
None			

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)

Lapalala Wilderness Reserve is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened**.

Lapalala Wilderness Reserve is not situated in any floristic centres of endemism and is not listed as a Threatened Ecosystem.

The Limpopo Province Biodiversity Conservation Assessment classifies the proposed Staff Village Site and most of the Lapalala Wilderness and general surroundings as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013).

Only one conservation-important plant species was recorded during fieldwork, namely *Boscia albitrunca*, which is

protected under the National Forests Act (No. 30 of 1998). Four plant species of conservation concern potentially occur, three Vulnerable-listed mammal species (Hippopotamus, Black Rhinoceros and Leopard) and three Near Threatened species (Honey Badger, White Rhinoceros and Brown Hyaena) potentially occur.

An environmentally-friendly and tread light approach will be encouraged for the proposed Staff Village development in terms of the design and layout. A 32 m buffer will be respected with regard to the wetland and drainage line located in the eastern portion of the site.

Majority of the proposed site is regarded as having a **moderate** biodiversity value, with the exception of the existing staff accommodation and access gate which has a **low** biodiversity value.

No cultural heritage sites were recorded for the Staff Village.

Sewage treatment will be via JoJo septic tanks and soak aways/French drains. These will be located at least 50 m from the drainage line. The environmental impacts will be minimal, and this closed and self-contained system does not pose a threat to the ground or surface water.

Power to the Lapalala Staff Village will be via solar panels and backup generators. The solar panels will be pole mounted.

Statement:

The proposed development site is acceptable for development and is not fatally flawed in any way. The construction impacts, if effectively managed according to the mitigation measures proposed in this report, the specialist reports and the draft EMPr will have a predominately **low** residual significance rating. **Moderate** post mitigation significance ratings are anticipated in terms of loss of areas classified as CBA1 due to vegetation clearing. It should be noted, however, that this impact is expected to be minimal owing to the fact that the accommodation units will be on raised platforms, thereby reducing the amount of vegetation cleared.

Similarly, operational impacts can also be mitigated and will result in **low** post mitigation significance ratings.

Positive impacts include job creation and employment opportunities for both the construction and operational phases, as well as, skills transfer and development.

In light of the above discussion, it is recommended that the proposed Staff Village at Lapalala Wilderness Reserve be supported on the condition that all mitigation measures mentioned in this report, the specialist reports and the draft EMPr are implemented and adhered to throughout the project lifecycle.

No-go alternative (compulsory)

The No-go Alternative implies that the development of the proposed Staff Village at Lapalala Wilderness Reserve will not take place. In this scenario, the receiving environment will not be impacted upon negatively in any manner, with particular reference to protected flora and surface water.

However, it should also be noted that no positive impacts will be realized such as job creation and employment opportunities, skills transfer and development.

This would not be ideal owing to the high unemployment rate in the local municipality and the fact that the majority of the population lives in a rural environment. Additionally, direct employment benefits and community beneficiation will not materialize.

In light of the above, as well as the fact that all negative impacts can be adequately mitigated and managed, it is not recommended that the No-go Alternative be supported.

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	
-----	--

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

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the department in respect of the application:

The proposed development of a Staff Village in Lapalala Wilderness Reserve will take place in Waterberg Mountain Bushveld, which was assessed by Mucina & Rutherford (2006) as **Least Threatened** and the 32 m buffer around wetland and drainage line will be respected.

As discussed in the preceding section, all significant negative impacts can be successfully mitigated and managed to acceptable levels (i.e. moderate to low) during all phases of the proposed development, and at all development sites.

All mitigation measures as detailed in this BAR, the attached Specialist Impact Assessments and the Draft Environmental Management Programme (EMPr) must be implemented and adhered for the duration of the project lifecycle (i.e. during the planning, construction and operational phases).

In addition, the following specific recommendations apply:

Planning and Design Phase:

- Register boreholes to be used for potable water extraction as per DWS requirements.
- All infrastructures (including storm water attenuation measures) at all the sites to be situated outside of the 1/100 year flood line of drainage lines and rivers.
- The sensitivity map must be used as a decision tool to guide the layout design for the staff village.
- Prior to any construction at any of the sites, an experienced botanist should conduct a walk-through of these sites during the wet season (Dec-Apr), marking each plant species of conservation concern to be avoided or that may need to be relocated prior to any site clearance activity taking place.
- All proposed roads to contain adequate stormwater drainage and erosion control measures.

Construction Phase:

- All development to be situated outside of the small wetland in the eastern part of the study area, where a 20 m conservation buffer should be implemented.
- Wherever possible, trees taller than 5 m or with a diameter at breast height of 30 cm should be left unharmed, whether protected by law or not.
- Poaching could be a significant threat. If any external labour teams are used during construction, then these teams should preferably be accommodated off site; if this is not possible then teams should be carefully monitored to ensure that no unsupervised access to plant and animal resources takes place.

Operational Phase:

- Management measures to eradicate and control alien plants need to be informed by the properties invasive species management program.
- Grounds staff should be trained to recognize and eradicate potential invasive plants.

Assuming that the above recommendations are implemented and adhered to, there is no reason why the proposed development of the Lapalala Staff Village should not take place. The Environmental Assessment Practitioner recommends that the development as proposed in the Preferred Alternative be supported

Is an EMPr attached?

YES

The EMPr must be attached as Appendix F.

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

D.1: Terrestrial Ecology Report

D.2: Heritage Impact Assessment

D.3: Visual Impact Assessment

D.4: Paleontological Impact Assessment

Appendix E: Public Participation

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Impact Assessment

Appendix H: Other information

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, _____ 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:

Name of company:

Date:

APPENDIX A: MAPS

APPENDIX B: PHOTOGRAPHS

APPENDIX C: FACILITY ILLUSTRATIONS

APPENDIX D: SPECIALIST REPORT
APPENDIX D.1: ECOLOGY REPORT

APPENDIX D.2: HERITAGE IMPACT ASSESSMENT

APPENDIX D.3: VISUAL IMPACT ASSESSMENT

APPENDIX D.4: PALEONTOLOGICAL IMPACT ASSESSMENT

APPENDIX E: PUBLIC PARTICIPATION

APPENDIX F: EMPr

APPENDIX G: IMPACT TABLES

APPENDIX H: OTHER INFORMATION