Draft Basic Assessment Report

Proposed Development of Custodian Sites and Management Infrastructure within Lapalala Wilderness, Limpopo Province

Prepared by:

NuLeaf PLANNING & ENVIRONMENTAL

March 2017

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FOREWORD

This report constitutes the **Draft Basic Assessment Report**, and has been circulated digitally for Stakeholder Comment on 24 March 2017.

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 26 April 2017.

Please mark all comments for the attention of:

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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:	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 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 EMPr.
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

SECTION A: ACTIVITY INFORMATION

Section A details all of the activities that will be undertaken during the developments of the custodian sites, as well as, the identification of reasonable and feasible alternatives, activity motivation and waste management.

The proposed conservation initiative entails the establishment of 30 private lodges/ residences on 1500 Hectare Freehold Title Stands within the Lapalala Wilderness Area. A development envelope with an 80 m radius has been preselected for each site where development may take place. The final placement of the private lodges/ residences will be informed by specialist input. All associated civil infrastructure (water and waste treatment) will be included. Power to all of the sites will be supplied via solar power.

The total development footprint will not exceed twenty (20) hectares.
Additionally, approximately 180 Km of game drive routes will be developed over the Lapalala Wilderness Reserve.

Feasible Alternatives:

Only a technology alternative is being considered for the proposed project.

Preferred Alternative: Alternative 1
It is the intent of Lapalala Wilderness to become completely off-grid and independent from Eskom power. To this end, the existing powerlines will be removed from the property.

In the Preferred Alternative, electricity to each of the 30 custodian sites will be supplied via solar power.
Each private lodge/ residence will have either roof mounted or pole mounted solar panels or a combination of both with a backup diesel generator to power the residence.

Similarly, each of the security access points will also be solar powered.

Advantages of this technology for the proposed activity include the following:

- The use of renewable energy (solar power) as a primary source of energy generation at the custodian sites is an ecologically sustainable solution, which is particularly appropriate in this natural context
- The use of off-grid power negates the requirement for ecologically and visually invasive electrical infrastructure (cabling) to the custodian sites
- The use of off-grid renewable energy will mostly likely bring a long term saving on operational energy costs

Disadvantages of this technology for the proposed activity includes the following:

- The decision to make use of renewable energy (solar power) will imply a higher capital cost for the custodian sites and the Reserve at large, as this infrastructure is expensive when compared to conventional on-grid energy solutions.
- Solar panels represent additional hard surfaces, which in turn imply higher storm water and runoff volumes from within the custodian sites footprint

Technology Alternative: Alternative 2
In the Technology Alternative, the existing Eskom powerlines will be extended to each of the 30 custodian sites and management infrastructure.

Advantages of this technology for the proposed activity include the following:

- The decision to make use of Eskom is a conventional on-grid energy solution of which the capital costs are known.

Disadvantages of this technology for the proposed activity includes the following:

- Existing energy supply, which will be extended, is not renewable and sustainable green technology
- The use of Eskom power entails the requirement for ecologically and visually invasive electrical infrastructure (cabling) to each of the sites
- The use of Eskom power entails an increase in the extent of the development footprint (owing to the fact that construction is taking place outside of the proposed custodian site footprints).
- The long term cost of energy from Eskom is set to increase significantly in the future, meaning a long term escalation in operational energy costs.

Waste, Effluent, Emission and Noise Management

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.

The sewage treatment systems will be designed to the specific requirements of each private lodge/residence based on the local environment in which each lodge has been placed. However, it is recommended that a biodigestor system such as a Biorock be implemented.

The Biorock units are packaged domestic sewage treatment plants which are based on the trickling filter process and is comprised of two phases. In the first phase, the raw sewage enters the primary tank to provide primary separation of water and solids. Here organic solids are also broken down via anaerobic digestion or fermentation. The sewage, now free from solids, passes through an effluent filter and into the Biorock unit which incorporates the aerobic filtration process comprising layers of filtration media.
The final treated effluent is then either discharges by gravity or collected in a pump well where it can be used to irrigate.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

This section provides a detailed description of the proposed development in terms of the groundwater, soil, biodiversity, visual and cultural/historical features found on site.

Biodiversity:

The study area 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** and is not situated in any floristic centres of endemism nor is it listed as a threatened ecosystem.

The Limpopo Province Biodiversity Conservation Assessment classifies most of the study area and general surroundings as a **Critical Biodiversity Area 1** (CBA1).

No threatened plant species were confirmed during fieldwork but two **Near Threatened** and two **Declining species** as well as nine species **protected** either under the Limpopo Environmental Management (Act No. 7 of 2003) or the National Forests Act (No. 30 of 1998) were recorded. No threatened plant species potential occur. In total, 204 plant species were recorded from the 36 sites.

The study area is situated within the savannah biome within the Lapalala Wilderness and threatened species confirmed for the reserve include White Rhinoceros, Black Rhinoceros, Ground Pangolin, Hippopotamus, Cheetah and, historically, Wild Dog.

Thirty-two mammal species were recorded during fieldwork within the Lapalala Wilderness excluding those observed in small camps such as Roan and Nyala. Of these, two are considered to be **threatened:** Black Rhinoceros and Hippopotamus which have both been assessed as **Vulnerable**. One Black Rhinoceros and at least ten Hippopotamus were observed from the

Robinson R44 Helicopter during the roads survey. Two species are classified as **Near Threatened**: Brown Hyaena and White Rhinoceros. Fair numbers of the latter were observed on the ground and in the air while low densities of the former were observed through scats and tracks. Nineteen of the confirmed species are **protected** either under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015) or the Limpopo Environmental Management Act (No. 7 of 2003).

Sixteen threatened or Near Threatened bird species potentially occur within the general vicinity of the study area. Two of these were **confirmed** during fieldwork: Lanner Falcon and African Finfoot. Both birds are listed as **Vulnerable**. A pair of Lanner Falcons was observed hunting at the Rundgren's Rest site and a single female African Finfoot was seen on the Lephalala River below the Modumela site.

Sixty-two species of reptiles have been recorded from the entire degree grid 2328. Three potentially occurring species are species of conservation concern: Orange-throated Flat Lizard is classified as Endangered, Nile Crocodile is classified as **Vulnerable** and is listed as Vulnerable under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015) and Southern African Python is listed as Protected under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and **Protected** Species Lists (GG Notice 256, 2015).

Visual:

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 visual quality of the receiving environment within the study area is high by virtue of the vast and undeveloped nature of the environment. This lends a distinct sense of place to the area.

Cultural/Historical Features:

Three rock art sites are located within the Bushman Painting, Rapids and Kgokong Pan Custodian sites, however, it should be noted that they are not located within the 80 m radius development envelope. Seven Late Iron Age settlements were recorded within the Modumela and Melora Custodian sites. Once again, these sites are not located within the 80 m development envelope. All of these sites will be demarcated as no-go zones and strict mitigation measures put in place.

Additionally, a possible grave site was located at Burkia. A watching brief is recommended in this regard.

SECTION C: PUBLIC PARTICIPATION

A list of interested and affected parties (I&AP's), 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 21 October 2016. A printed advertisement was placed in the Northern News, a local publication, on the 21 October 2016. Additionally, site notices were placed at the main entrances to the affected property on 24 October 2016.

SECTION D: IMPACT ASSESSMENT

Preferred Alternative- Alternative 1:

A tread lightly approach will be encouraged for all of the development sites in terms of the design and layout of the proposed private lodges/residences and management infrastructure. A 32 m buffer will be respected with regard to all watercourses,

namely the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines, with the exception of Rapula Rock, Rundgren's Rest and Kwena which slightly encroach into the 32 m buffer. The 100 year flood line for the Lepalala River will be respected for all sites. This is of particular relevance to sites located near watercourses such as Mohlatse Plains, Tamboti, Kgokong Pan, Kings Pool, Buffalo Pool, Rundgren's Rest, Marula, Rapula Rocks, Rapids, Mooka, Lepotedi, Melora Alternative, Modumela, Kwena, Drangonfly, Molope Plains, Burkia, Tholo Plains, Bushmans Painting, Elephant Pool, as well as, the road crossings.

Majority of the Custodian sites and Management infrastructure sites are located in areas with a **low to moderate** biodiversity/development conflict sensitivity. However, one site- Marula- has a **high** sensitivity owing to the riparian zone along the Lephalala River and riparian forests.

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 disturbance/ loss of hydrological function of watercourses and disturbance of sensitive habitats such as riparian zones. While the post mitigation significance rating for the destruction/disturbance of archaeological sites is low, the proposed access road to the Melora Custodian site will **negatively** impact on 3 archaeological sites. This access road is therefore **not supported.** Similarly, while majority of the proposed roads are located in areas with a low sensitivity, twenty-nine (29) of these proposed roads are located in areas with a **high** sensitivity. These areas include steep slopes and drainage lines/streams. Drainage line and stream crossings are to be approached in a very sensitive manner with strict mitigation. Of the 5 roads proposed on steep slopes, only one may be developed, RD046 that links Tamboti and Kogong View. The remaining 4 proposed roads, RD047, RD041, RD060 and RD106 are **not** recommended for development and are not supported.

It is recommended that all of the development sites (excluding the 4 proposed roads on steep slopes and the access road to the Melora Custodian site) be supported on the condition that all mitigation measures mentioned in this report, the specialist studies and the draft EMPr are implemented and adhere to throughout the project lifecycle.

Technology Alternative- Alternative 2:

The Technology Alternative includes the same sites and roads as the Preferred Alternative: Alternative 1. All service aspects will be also be as per the Preferred Alternative: Alternative 1, with the exception that power will not be supplied off grid but rather via Eskom. The existing Eskom lines will be extended both overhead and underground in order to minimize the visual impact. Burying the cables poses greater risk to the vegetation, especially the riparian habitats.

The extent of the development footprint is also increased owing to the fact that construction is taking place outside of the proposed Custodian Site development envelopes.

The Technology Alternative will result in higher significance ratings for certain aspects, such as, surface water, soil, flora and fauna, during the construction phase due to the elevated environmental risks associated with the extension and burying of Eskom power cables. **Increased impacts** as compared to the Preferred Alternative, are anticipated for the disturbance and loss of hydrological function of water courses, soil erosion, loss of vegetation and disturbance to sensitive habitats (riparian) and wildlife corridors owing to the extension of the power cables.

It is recommended that the Technology Alternative **not** be supported due to the increase in extent of the development footprint and the associated increase in negative impacts on the receiving environment. The Preferred Alternative, which includes green energy technology, is favoured owing to renewable energy generation which is conducive in a soon-to-be Protected Area.

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:	
	(For official use only)
NEAS Reference Number:	
Date Received:	
Due date for acknowledgement:	
Due date for acceptance:	
Due date for decision	

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.

2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.

3. Where applicable **tick** the boxes that are applicable in the report.

4. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.

5. An incomplete report may be returned to the applicant for revision.

6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.

8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.

9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.

10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address:	**Physical Address**:
Central Administration Office Environmental Impact Management P. O. Box 55464 **POLOKWANE** 0700	Central Administration Office Environmental Affairs Building Cnr Suid and Dorp Streets **POLOKWANE** **0699**

Queries should be directed to the Central Administration Office: Environmental Impact Management:-

For attention: Mr E. V. Maluleke

Tel: (015) 290 7138/ (015) 290 7167

Fax: (015) 295 5015

Email: malulekeev@ledet.gov.za

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

SECTION A: ACTIVITY INFORMATION

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

YES	

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 detail[1]:

The proposed conservation initiative entails the establishment of 30 private lodges/ residences on 1500 Hectare Freehold Title Stands within the Lapalala Wilderness Area. A development envelope with an 80 m radius has been preselected for each site where development may take place. The final placement of the private lodges/ residences will be informed by specialist input. All associated civil infrastructure (water and waste treatment) will be included. Power to all of the sites will be supplied via solar power.

Each private lodge/residence ***may*** consist of the following:

- Main lodge/ guest suites (maximum of 12 guest beds)
- Staff accommodation (maximum of 5 staff beds)
- Lookout deck
- Swimming pool
- Watering hole
- Tennis Court
- Gym
- Garage/Car port
- Store room/ generator

Supporting management infrastructure will consist of the following:

- training area
- staff accommodation
- breeding center
- security section with accommodation

[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.

- service staff houses
- 3x security control gates. Two of the security control gates, South and North Gate, will be upgraded, while the East gate will be established
- A shaded boat shelter

The total development footprint will not exceed twenty (20) hectares.

Additionally, approximately 180 Km of game drive routes will be developed over the Lapalala Wilderness Reserve.

2. FEASIBLE AND REASONABLE ALTERNATIVES

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

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

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

Only a technology alternative is being considered for the proposed project.

Preferred Alternative: Alternative 1

It is the intent of Lapalala Wilderness to become completely off-grid and independent from Eskom power. To this end, the existing powerlines will be removed from the property.

In the Preferred Alternative, electricity to each of the 30 custodian sites will be supplied via solar power.
Each private lodge/ residence will have either roof mounted or pole mounted solar panels or a combination of both with a backup diesel generator to power the residence.

Similarly, each of the security access points will also be solar powered.

Advantages of this technology for the proposed activity include the following:

- The use of renewable energy (solar power) as a primary source of energy generation at the custodian sites is an ecologically sustainable solution, which is particularly appropriate in this natural context
- The use of off-grid power negates the requirement for ecologically and visually invasive electrical infrastructure (cabling) to the custodian sites

- The use of off-grid renewable energy will mostly likely bring a long term saving on operational energy costs

Disadvantages of this technology for the proposed activity includes the following:

- The decision to make use of renewable energy (solar power) will imply a higher capital cost for the custodian sites and the Reserve at large, as this infrastructure is expensive when compared to conventional on-grid energy solutions.
- Solar panels represent additional hard surfaces, which in turn imply higher storm water and runoff volumes from within the custodian sites footprint

Technology Alternative: Alternative 2

In the Technology Alternative, the existing Eskom powerlines will be extended to each of the 30 custodian sites.

Advantages of this technology for the proposed activity include the following:

- The decision to make use of Eskom is a conventional on-grid energy solution of which the capital costs are known.

Disadvantages of this technology for the proposed activity includes the following:

- Existing energy supply, which will be extended, is not renewable and sustainable green technology
- The use of Eskom power entails the requirement for ecologically and visually invasive electrical infrastructure (cabling) to each of the sites
- The use of Eskom power entails an increase in the extent of the development footprint (owing to the fact that construction is taking place outside of the proposed custodian site footprints).
- The long term cost of energy from Eskom is set to increase significantly in the future, meaning a long term escalation in operational energy costs.

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.

Please refer to Appendix H.1 for a full list of site coordinates.

In the case of linear activities:

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.

Please refer to Appendix H.2 for a full list of coordinates for linear activities

4. PHYSICAL SIZE OF THE ACTIVITY

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

Custodian Sites:	**Size of the activity:**
Custodian Sites on average	1500 m^2
Security Access Points on average	40 m^2
Staff Accommodation on average	80 m^2

or,

for linear activities:

	Length of the activity:
Roads:	
Total length of all game drive routes	187000 m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

5. SITE ACCESS

Does ready access to the site exist?	**YES** ■
If NO, what is the distance over which a new access road will be built	m

Describe the type of access road planned:

Ready access to majority of the 30 Custodian sites exists in the form of narrow dirt roads and 2 spoor tracks. Where access is available only up to a point, new 2 spoor tracks of between 100- 200 m will be constructed.
In some instances, old concrete tracks are in place. These are, however, in a state of disrepair.
In all instances, the existing access tracks will be resurfaced to allow for easier access, while the game viewing tracks will be left as 2 spoor tracks.

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.

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 1,2 billion
What is the expected yearly income that will be generated by or as a result of the activity?	R 15 million
Will the activity contribute to service infrastructure?	YES [redacted]
Is the activity a public amenity?	[redacted] NO
How many new employment opportunities will be created in the development phase of the activity?	110
What is the expected value of the employment opportunities during the development phase?	R 16,17 million
What percentage of this will accrue to previously disadvantaged individuals?	90 %
How many permanent new employment opportunities will be created during the operational phase of the activity?	95
What is the expected current value of the employment opportunities during the first 10 years?	R 50 million

What percentage of this will accrue to previously disadvantaged individuals?	80 %

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	
	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. One way in which to combat this issue is to increase the tourism offerings in the region, as well as, diversifying the tourism products.		
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, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES	
	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 the Custodian sites falls under. Also of note, is that the SDP acknowledges the important role that the private sector and land owners play in tourism development. 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.		
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 110 jobs will be created during the construction phase and approximately 95 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 30 custodian sites have been chosen for their seclusion within the Reserve. The private lodges/residences will be limited to single storey and natural materials and colours will be used so as to blend into the natural environment. 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
	A precedent is not expected to be set.		
vii.	Will any person's rights be affected by the proposed land use / development?		NO
	It is not anticipated that any person's rights will be infringed upon.		
viii.	Will the proposed land use / development compromise the "urban edge"?		NO
	The urban edge will not be compromised as the proposed development site is not located within a built environment. Lapalala Wilderness is a reserve which is currently in the beginning stages 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	
ii.	Explain:		
	The benefits of proposed project to the society in general include the following: • 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.		
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES	
iv.	Explain:		
	The proposed development of the Custodian sites and management infrastructure will benefit the local communities in terms of employment opportunities and job creation. It is estimated that approximately 110 jobs will be created during the construction phase and 95 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: 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: Biodiversity Act (Act No. 10 of 2004):	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 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,	Department of Environmental Affairs	2004

	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 throughput 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 Environmental Management Waste Act (Act No. 59 of 2008)	The Waste Act reforms the law regulating waste management in order to protect the 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.	Department of Environmental Affairs	2008
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	Department of Health	1973

	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.		
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, ensure conservation and sustainable management of the biosphere and other conservation areas. 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.	Waterberg District Municipality	2009
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	Lephalale Local Municipality	2014-2016

	projects to aid in the development of tourism inclusive of tourism awareness campaigns, infrastructure to tourism routes and destinations.		
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
If yes, what estimated quantity will be produced per month?	< 4 m^3 per month per private lodge/residence

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?	< 4 m^3 per month per private lodge/residence

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 municipal sewage system?	NO
If yes, what estimated quantity will be produced per month?	m^3
Will the activity produce any effluent that will be treated and/or disposed of on-site?	Yes

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

The sewage treatment systems will be designed to the specific requirements of each private lodge/residence based on the local environment in which each lodge has been placed. However, it is recommended that a system such as a Biorock be implemented.

The biorock is a domestic sewage treatment plant that is perfect for areas where there is no connection to a municipal sewer, such as, game lodges and wildlife reserves, holiday resorts, single homes and residential estates.

The Biorock units are packaged domestic sewage treatment plants which are based on the trickling filter process and is comprised of two phases. In the first phase, the raw sewage enters the primary tank to provide primary separation of water and solids. Here organic solids are also broken down via anaerobic digestion or fermentation. The sewage, now free from solids, passes through an effluent filter and into the Biorock unit which incorporates the aerobic filtration process comprising layers of filtration media.
The final treated effluent is then either discharges by gravity or collected in a pump well where it can be used to irrigate.

The advantages of this type of system are as follows:

- Modular design which can be expanded from anywhere from 6-100 people
- Can be installed both below or above ground
- Quiet and odourless
- Does not require electricity
- Final treated effluent meets the highest standards and regulations
- Is able to handle both intermittent loading and long absence periods

Please refer to Appendix H.4 for the design specifications

Reference: https://www.biobox.co.za/products/biorock.html

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:		Cell:	
E-mail:		Fax:	

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

While each custodian site will have different design elements, the overall approach of Lapalala Wilderness is to be environmentally responsible and have the least impact on the environment as possible. In this regard purified effluent *may* be used to irrigate the immediate grounds.

Additionally, all private lodges/residences will be encouraged to separate waste streams at the source. Approved grease traps will be installed at all kitchen waste outlets and environmentally friendly and/or organic based detergents and soaps will be used to limit the effects on the bio-organisms present in the treatment system.

The private lodges/residences 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 tracks water received and water used in each bathroom, kitchens and other points
- Ensuring effective backwash requirements for pool filters, proper filtration designs with effective pool reticulation

11(c) Emissions into the atmosphere

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

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	
If yes, is it controlled by any legislation of any sphere of government?		NO

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 custodian sites.

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:

174000 Litres per month per Private lodge/residence

Does the activity require a water use permit from the Department of Water Affairs? YES [redacted]

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:

While each private lodge/residence will have different design measures to ensure that the development is energy efficient, Lapalala Wilderness Reserve will encourage the use of the following:

- Lighting: LED lighting should be installed throughout the private lodges/ residences
- Hot water: Hot water for guest rooms may be provided by means of a heat pump/solar/gas water geysers.
- 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 will be completely off-grid whereby all of the custodian sites, security access points and staff accommodation units will 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.

1. General:

The following is applicable to ***all*** of the Custodian sites, as well as, the management infrastructure:

- **Specialist consultation**

Has a specialist been consulted to assist with the completion of this section? YES [redacted]

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

Specialists have been consulted for all of the Custodian sites and management infrastructure. All specialist reports can be found in Appendix D.

- **Property descriptions**

Property description/physical address:	**Please refer to Appendix H.3 for a complete list of property descriptions.**
	(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 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.

- **Land use**

Is a change of land-use or a consent use application required?		NO
Must a building plan be submitted to the local authority?	YES	

- **Locality Maps**

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:

Locality map:

- 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 for a broad locality map, as well as, individual maps for all of the custodian sites.

2. Biodiversity

- *Flora:*

The study area is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome.
Waterberg Mountain Bushveld is located in the foothills, escarpment and tablelands of the Waterberg Mountains between Lephalale, Marken and Bela-Bela in the north-western region of Limpopo Province, South Africa. Vegetation structure comprises low to mid-high woodland that is dominated by deciduous, broad-leaved tree species, and has a grass-dominated herbaceous layer. Dominant canopy species within this vegetation type include *Burkea africana, Combretum apiculatum, Acacia caffra* and *Acacia robusta*.
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, which are areas that have an unusually high number of plants unique to that area (Van Wyk & Smith, 2001) and is not listed as a Threatened Ecosystem (Notice 1002 of Government Gazette 34809, 9 December 2011).

While the Terrestrial Ecosystem Status of the vegetation types in the study area is Not Currently Threatened, the Limpopo Province Biodiversity Conservation Assessment 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).

No threatened plant species were confirmed during fieldwork but two **Near Threatened** and two **Declining species** as well as nine species **protected** either under the Limpopo Environmental Management (Act No. 7 of 2003) or the National Forests Act (No. 30 of 1998) were recorded. No threatened plant species potential occur. In total, 204 plant species were recorded from the 36 sites.

- Confirmed Conservation-Important Flora:

Four plant species located within the boundaries of the 36 proposed development sites are considered to be of conservation concern as defined by Raimondo *et al.* (2009). Two plants are listed as Near Threatened: the tree *Elaeodendron transvaalense* and the bulb *Drimia sanguinea*. In addition, two species are listed as Declining: the epiphytic orchid *Ansellia africana* and the bulb *Boophone disticha*. These species are dealt with in more detail below:

i. **Transvaal Saffron *Elaeodendron transvaalense*** (Burtt Davy) R.H.Archer

Transvaal Saffron is a small to medium-sized evergreen tree occurring in northern and eastern South Africa, and further afield through Namibia, Botswana, Zimbabwe, Mozambique and Zambia. The species is heavily harvested in South Africa for traditional medicine and some sub-populations have declined as a result; as such it has been assessed as Near Threatened (Williams *et al*., 2008a). Small numbers were located in six of the proposed lodge sites.

ii. **Snake-root *Drimia sanguinea*** (Schinz) Jessop

This is another species confined to southern Africa, occurring from western Free State and Northern Cape through northern South Africa to Namibia, Botswana and Zimbabwe. Snake-root is a well-known highly poisonous species which has resulted in large-scale mortality in livestock in the past. It is also one of the most widely traded species in traditional medicine markets and populations have declined by 20-25% as a result; the species has therefore been assessed as Near Threatened (Williams *et al*., 2008b). One small colony consisting of four bulbs was located in the Melora site.

iii. **Leopard Orchid *Ansellia africana*** Lindl**.**

This is an epiphytic orchid that grows in the canopy or mid-stratum of large trees in forest or woodland habitats (**Error! Reference source not found.**). It has suffered under illegal trade of plants collected in the wild and a continued decline is expected, hence its status of Declining (Williams *et al*., 2008c). Low numbers were located in three of the proposed development sites.

iv. **Poison Bulb *Boophone disticha*** (L.f.) Herb.

This highly toxic and long-lived bulb is widespread in South Africa and beyond. It is in high demand in the medicinal plant trade and is declining throughout its range in South Africa (Williams *et al*., 2008d). It has suffered under illegal trade of plants collected in the wild and a continued decline is expected, hence its status of Declining. A single plant was located in the Amphitheatre site.

Four trees confirmed during fieldwork are protected under the National Forests Act (No. 30 of 1998): *Combretum imberbe, Boscia albitrunca*, *Sclerocarya birrea* subsp. *caffra* and *Elaeodendron transvaalense* (Table 1). One tree (*Spirostachys africana*), two succulents (*Huernia* cf. *zebrina* and *Aloe spicata*) and one bulb (*Scadoxus puniceus*) are protected under the Limpopo Environmental Management Act (No. 7 of 2003).

- *Fauna:*

- Mammals:

The study area is situated within the savannah biome within the Lapalala Wilderness and threatened species confirmed

for the reserve include White Rhinoceros, Black Rhinoceros, Ground Pangolin, Hippopotamus, Cheetah and, historically, Wild Dog[2]. The mammal diversity for the reserve is high although many of these would be small mammals such as rodents, insectivores and bats, most of which would not be located through active searching methods employed during daylight.

Thirty-two mammal species were recorded during fieldwork within the Lapalala Wilderness excluding those observed in small camps such as Roan and Nyala. Of these, two are considered to be **threatened:** Black Rhinoceros and Hippopotamus which have both been assessed as **Vulnerable**. One Black Rhinoceros and at least ten Hippopotamus were observed from the Robinson R44 Helicopter during the roads survey. Two species are classified as **Near Threatened**: Brown Hyaena and White Rhinoceros. Fair numbers of the latter were observed on the ground and in the air while low densities of the former were observed through scats and tracks. Nineteen of the confirmed species are **protected** either under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015) or the Limpopo Environmental Management Act (No. 7 of 2003).

An additional thirty-one additional conservation-important mammals potentially occur within the general vicinity of the proposed development footprints. Of the 18 species with a moderate or high likelihood of occurring within the study area, only four are considered to be of conservation concern, all four of which are classified as Near Threatened. Two of these are carnivores, namely Leopard and Honey Badger, while one species is a small bat (Rusty Bat). The remaining species is Sharpe's Grysbok which, according to the Lapalala Wilderness Masterplan (2016), does indeed occur within the reserve.

- Birds:

Of the nine biomes in Southern Africa, the savannah biome supports the highest diversity of bird species within the sub-region. Evidence in support of this is the combined total of 270 species recorded within the quarter-degree grids 2328 CB, CC and CD, in which the study area falls, during the second Southern African Bird Atlas Projects (SABAP2). One-hundred-and-forty-five species were confirmed to occur in the study area during fieldwork, a reasonable total considering the dry conditions prevailing during fieldwork.

Five assemblages were identified during fieldwork and are briefly described below:

i. Woodland Assemblage

This is by far the largest and most diverse bird assemblage in the study area and can be found in all wooded natural habitats on the property. Eighty-one species were recorded in this assemblage, including common generalists such as White-bellied Sunbird, Black-backed Puffback, White-browed Scrub Robin and Emerald-spotted Wood Dove.

ii. Thicket Assemblage

This is a small assemblage confined to the tall thickets along the Lephalala River as well as on some of the steeper slopes. Common species found include Southern Boubou, Grey-backed Camaroptera, Red-chested Cuckoo, Yellow-bellied Greenbul and Grey Tit-Flycatcher.

iii. Rocky Slopes Assemblage

This assemblage is restricted to the steeper slopes where rock cover is high. Diagnostic species include Striped Pipit, Mocking Cliff-Chat, Streaky-headed Seedeater and Freckled Nightjar.

iv. Rivers / Dams Assemblage

Birds associated with water occur along the two main rivers in the study area, as well as on artificial dams throughout the study area. Species restricted to this assemblage include Reed Cormorant, Egyptian Goose, Pied, Giant and Malachite Kingfishers and African Finfoot.

v. Open Plains Assemblage

Open plains occur throughout the study area, predominantly on old agricultural lands that have now been cleared of most

[2] Masterplan for Lapalala Wilderness, 2016

trees and shrubs to encourage grass growth. Birds found here include Crowned Lapwing, Capped Wheatear, African Pipit and Common Buzzard.

Sixteen threatened or Near Threatened bird species potentially occur within the general vicinity of the study area. Two of these were **confirmed** during fieldwork: Lanner Falcon and African Finfoot. Both birds are listed as **Vulnerable**. A pair of Lanner Falcons was observed hunting at the Rundgren's Rest site and a single female African Finfoot was seen on the Lephalala River below the Modumela site.

Three of the potentially occurring species with a moderate or high likelihood of occurring in the vicinity of Lapalala are threatened species, one of which is classified as Endangered and three as Vulnerable. Martial Eagle (Endangered) and Verreaux's Eagle (Vulnerable) may occasionally forage over the study area and breeding habitat is present for both. Black Stork is likely to forage in the Lephalala River and the Bloklandspruit and breeding habitat (cliffs) is present.

- Reptiles:

Sixty-two species of reptiles have been recorded from the entire degree grid 2328. Three potentially occurring species are species of conservation concern: Orange-throated Flat Lizard is classified as Endangered, Nile Crocodile is classified as **Vulnerable** and is listed as Vulnerable under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and Protected Species Lists (GG Notice 256, 2015) and Southern African Python is listed as Protected under the National Environmental Management: Biodiversity Act (No. 10 of 2004) Threatened and **Protected** Species Lists (GG Notice 256, 2015). Nile Crocodile was confirmed in the Lephalala River during the helicopter survey. The flat lizard has a Low likelihood of occurrence due to occurring further north than Lapalala and the python has a High likelihood of occurring anywhere within the reserve. A reasonable total of 14 reptile species were recorded during fieldwork.

- Frogs:

Twenty-two species of frogs have been recorded from the degree grid 2328. None are threatened or protected. Five frog species were recorded during fieldwork, although additional nocturnal surveys during the wet season would result in a number of additional species.

Please refer to Appendix D.1 for the terrestrial ecology report.

3. Visual

A visual impact assessment was undertaken by NuLeaf Planning and Environmental in order to determine the possible visual impact of the proposed Custodian sites and Management infrastructure.

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 north and south. Some visual impact has already occurred in the north and south as a result of the existing access control points. 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.

Paragraphs 1 - 6 below have been completed for each of the Custodian Sites and management infrastructure sites:

1. SITE 1: MOHLATSE PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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:	

f. 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?	NO

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:	

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

2. SITE 2: ELAND PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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			

c. Groundwater, soil and geological stability of the site

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

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

d. 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	Veld dominated by alien	Gardens

		infestation[E]	species[E]	
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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO

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:	

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

3. SITE 3: KGOKONG PAN

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	[redacted]	NO
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)		NO

Unstable rocky slopes or steep slopes with loose soil	[redacted]	NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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	
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)	

f. Cultural/historical features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES
If YES, explain:	Rock art was discovered 650 m from the lodge site.

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

Briefly explain the findings of the specialist:	The site comprises a rock art overhang which is situated next to an existing access road. At least on large panel was located along the west-facing outcrop which is roughly 10 metres in length. The rock art depictions are associated with San and Bantu-speaking people. Some of the figures clearly belongs to the 'Late White' tradition and is associated with early farming communities. The panel is undamaged and in a good, though fading, condition. No substantial deposits were recorded in association with the overhang. RARI did visit rock art sites in Lapalala during an earlier survey and the site was probably recorded. Please refer to Appendix D.2 for the Heritage Impact Assessment.

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

4. SITE 4: TSHUKUDU PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO

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:	

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

5. SITE 5: SUN BIRD

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	[redacted]	NO
Dolomite, sinkhole or doline areas		NO

Seasonally wet soils (often close to water bodies)	[redacted]	NO
Unstable rocky slopes or steep slopes with loose soil		NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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	
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	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

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

6. SITE 6: MARULA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

7. SITE 7A: RAPULA ROCK

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	YES	
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)	YES	
Unstable rocky slopes or steep slopes with loose soil		NO
Dispersive soils (soils that dissolve in water)		NO

Soils with high clay content (clay fraction more than 40%)	[redacted]	NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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)	

f. 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?	NO
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:	

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

8. SITE 7B: BONWA PHALA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site	X	5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir	X	5.42 Other land uses (describe)	

f. 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?	NO
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:	

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

9. SITE 8: SELOUS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	x
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	

5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO

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:

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

10. SITE 9: KINGS POOL

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	x
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	

2.5 Open valley	

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
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	X	5.42 Other land uses (describe)	

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

11. SITE 10: ROAN PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	x
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO
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:	

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

12. SITE 11: BUFFALO POOLS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	x
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
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)	

f. 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?	NO

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:

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

13. SITE 12: LION PAN

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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	Natural veld with	Natural veld with	Veld dominated	Gardens

condition[E]	scattered aliens[E]	heavy alien infestation[E]	by alien species[E]	
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.

e. 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	
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	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO

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:	

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

14. SITE 13: CHIEFS CAMP

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	[redacted]	NO
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)		NO

Unstable rocky slopes or steep slopes with loose soil	[redacted]	NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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	
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)	

f. 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?	NO
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:	

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

15. SITE 14: TAMBOTI

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain	X	2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

16. SITE 15: KOGONG VIEW

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
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)	

f. 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?	NO

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:

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

17. SITE 16: RAPIDS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

2.5 Open valley	X

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.19 Archaeological site	X	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)	

f. Cultural/historical features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES [redacted]
If YES, explain:	Rock art sites were found across the river from the proposed Rapids Custodian site.

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

Briefly explain the findings of the specialist:	The site comprises a rock art overhang which is situated next to the Lephalala River. Several (at least 3) panels are located along the east-facing outcrop which is roughly 30 metres in length. The rock art depictions are associated with San occupation. The rock art panels are undamaged and in a good, though fading, condition. No substantial deposits were recorded in association with the overhang. RARI did visit rock art sites in Lapalala during an earlier survey and the site was probably recorded. Please refer to Appendix D.2 for the Heritage Impact Assessment.
Will any building or structure older than 60 years be affected in any way?	[redacted] NO

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

18. SITE 17A: LEPOTEDI

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

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

19. SITE 17B: MOOKA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

20. SITE 18A: MELORA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site	X	5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. Cultural/historical features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the | YES |

National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	
If YES, explain:	Late Iron-Age stone walled settlement that stretches approximately 1000 meters along the base of the northern face of Melora Hill.

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

Briefly explain the findings of the specialist:	The site comprises an extensive Late Iron Age stone-walled settlement (Sites 4, 5 and 8 seem to be one integrated settlement) that stretches approximately 1000 metres along the base of the northern face of Melora Hill. At some places the site is 80 metres in width and can be noticed on both sides of the existing road running along the hill. The site has been extensively damaged in the past and stone piles probably from stonewalls can still be seen. Several livestock enclosures, middens, pieces of house dagha and other cultural material were recorded on the surface along the whole site. The site is probably associated with Melora Hilltop settlement but the chronological sequence is currently unclear. The site should be investigated further. Please refer to Appendix D.2 for the Heritage Impact Assessment.

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

21. SITE 18B: MELORA ALTERNATIVE 2

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

22. SITE 19: MODUMELA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	X	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)	

f. Cultural/historical features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the	YES	

National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?		
If YES, explain:	The sites comprise of a Late Iron Age stone-walled settlement with multiple circular enclosures and a livestock outpost.	

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

Briefly explain the findings of the specialist:	The site comprises a Late Iron Age stone-walled settlement with multiple circular enclosures. The site is approximately 100 metres in extent and straddles the current access road that was probably constructed in the 1960s. As a result the road runs through the centre of the settlement which caused extensive damage. The stonewalls are over 1 metre in height in places and very well preserved. Surface scatters of potsherds and possible middens were noted. Site 9 (which is located 250 metres to the north) probably functioned as a livestock kraal for Site 6. The site comprises a Late Iron Age stone-walled livestock outpost. The site consists of a single enclosure roughly 15 metres in diameter. No middens or other structure were found in association. The site probably forms part of the larger Iron Age farming network on the landscape and is in close proximity to another larger stone-walled site (Site 6). Site 9 is situated roughly 600 metres east of Melora Hill. Please refer to Appendix D.2 for the Heritage Impact Assessment.

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

23. SITE 20: AMPHITHEATRE

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

2.5 Open valley	

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
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	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

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

24. SITE 21: RUNDGREN'S REST

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

25. SITE 22: KWENA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

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

26. SITE 23: DRAGONFLY

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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	Natural veld with	Natural veld with	Veld dominated	Gardens

condition[E]	scattered aliens[E]	heavy alien infestation[E]	by alien species[E]	
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.

e. 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)	

f. 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?	NO

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:	

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

27. SITE 24: MOLOPE PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	YES	
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)	YES	

Unstable rocky slopes or steep slopes with loose soil	[redacted]	NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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)	

f. 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?	NO
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:	

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

28. SITE 25: BURKIA

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. Cultural/historical features

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

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:	A possible grave (stone cairn) was recorded. Please refer to Appendix D.2 for the Heritage Impact Assessment.

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

29. SITE 26: THOLO PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley	X		

c. Groundwater, soil and geological stability of the site

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

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

An area sensitive to erosion	[redacted]	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).

d. 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.

e. 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)	

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

30. SITE 27: BUSHMANS PAINTING

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

2.1 Ridgeline	X	2.6 Plain	

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

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	X	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)	

f. Cultural/historical features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES
If YES, explain:	The site comprises an east-facing Later Stone Age shelter with several rock art panels.

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

Briefly explain the findings of the specialist:	The site comprises an east-facing Later Stone Age shelter with several rock art panels. The site is located midway up a sheer cliff overlooking the Lephalala River and is roughly 5 metres in diameter. The rock art depictions and surface finds are associated with San occupation. Although the shelter has been visited by tourist for a number of years the rock art panels are undamaged and in a good, though fading, condition. The shelter most probably still contains substantial Later Stone Age deposits. No archaeological excavations have been done at the site. RARI did visit rock art sites in Lapalala during an earlier survey. The proposed Bushmans Painting Lodge site is situated some 100 metres away from the site. The future custodians should be made aware of the value of the rock art and how to manage and preserve the site. Please refer to Appendix D.2 for the Heritage Impact Assessment.

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

31. SITE 28: ELEPHANT POOL

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. Location in landscape

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

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

c. Groundwater, soil and geological stability of the site

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

	Site	
Shallow water table (less than 1.5m deep)	YES	
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)	YES	

Unstable rocky slopes or steep slopes with loose soil	[redacted]	NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion		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).

d. 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.

e. 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)	

f. 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?	NO
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:	

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

32. SITE 29: THAKADU PLAINS

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain	X	2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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)	

f. 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?	NO
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:	

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

33. SITE 30: KOLOBE

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley	X		

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	

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	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

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

34. STAFF ACCOMMODATION

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X

2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	X	5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial		5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)- landing strip	X

f. 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?	NO
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:	

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

35. SOUTH GATE

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	X
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial [AN]		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial		5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	

5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

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

36. EAST GATE

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X

2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. 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?	NO
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:	

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

37. NORTH GATE

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

a. Gradient of the site

Indicate the general gradient of the site.

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

b. 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	X
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

c. Groundwater, soil and geological stability of the site

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

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

d. 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.

e. 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	

5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

f. Cultural/historical features

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

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:	Historic house located adjacent to the gate. However, it is substantially altered with several additions resulting in no intrinsic heritage value. Please refer to Appendix D.2 for the Heritage Impact Assessment.

Will any building or structure older than 60 years be affected in any way?	YES	
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		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.

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 sub regulation 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.

1. 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&AP's), 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 21 October 2016.
- A printed advertisement was placed in the Northern News, a local publication, on the 21 October 2016.
- Site notices were placed at the main entrances to the affected property on 24 October 2016.

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
Department of Agriculture, Forestry and Fisheries	No
Department of Water and Sanitation	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? **NO**

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

No comments have been received thus far.

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.

Planning and Design Phase

Direct impacts:

GROUND WATER

- None

SURFACE WATER

- Risk to ecological function of the riparian habitat along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines due to placement of structures and infrastructure within the habitat.
- Risk to hydrological function (quality and fluctuation properties) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines due to activity and disturbance near the watercourse.

SOIL

- Erosion risk to soils due to increased hard surface, associated increase in storm water runoff and the placement of roads on steep slopes..

AIR

- None

BIODIVERSITY (FLORA)

- Risk to Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness due to the placement of structures and infrastructure and the game drive routes.
- Risk to sensitive habitats, specifically riparian zones along the Lephalala River due to the placement of structures and infrastructure and certain game drive routes.
- Risk to Conservation Important Species and protected trees. i.e. *Sclerocarya birrea subsp. caffra, Scadoxus puniceus, Huernia cf. zebrine, Aloe spicata, Boscia albitrunca, Elaeodendron transvaalense, Combretum imberbe, Spirostachys Africana, Ansellia Africana, Drimia sanguinea, Boophone disticha* due to the placement of structures and infrastructure within the habitat and/ or within the demarcated buffer zones.

BIODIVERSITY (FAUNA)

- Risk to the riparian zone which acts as a wildlife corridor and is an important faunal habitat for the confirmed Vulnerable-listed species such as the African Finfoot and Hippopotamus due removal and alternation of the habitat and the development of structures, infrastructure and game drive routes.
- Risk of habitat fragmentation.

LAND USE & AGRICULTURAL POTENTIAL

- None

HERITAGE

- Risk to rock art sites located at certain custodian sites, namely Bushman painting, Rapids and Kgokong Pan.
- Risk to Late Iron Age sites located on certain custodian sites and along certain proposed access routes. This is of particular relevance to Melora and Modumela custodian sites and proposed access roads.
- Risk to possible grave site located on the custodian site Burkia.

VISUAL

- Risk to visual quality of the surrounding area and sense of place due to the development of structures and infrastructure throughout the Lapalala Wilderness Reserve within an otherwise natural environment.
- Risk of glare from high-tech and reflective materials used for solar panels throughout the Lapalala Wilderness reserve.

SOCIO-ECONOMICS

- None

MUNICIPAL SERVICES & TRAFFIC

- None

Indirect impacts:

- None.

Cumulative impacts:

BIODIVERSITY (FLORA)

- Cumulative loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness.
- Cumulative loss of sensitive habitats, specifically riparian zones.
- Cumulative reduction of Conservation Important Species and protected trees. i.e. *Sclerocarya birrea subsp. caffra, Scadoxus puniceus, Huernia cf. zebrine, Aloe spicata, Boscia albitrunca, Elaeodendron transvaalense, Combretum imberbe, Spirostachys Africana, Ansellia Africana, Drimia sanguinea, Boophone disticha*.

BIODIVERSITY (FAUNA)

- Cumulative loss of faunal habitat.

HERITAGE

- Cumulative loss of rock art and Late Iron Age sites which would result in an overall loss of these artefacts.

Construction Phase

Direct impacts:

GROUND WATER

- Depletion of ground water due to overuse and waste during construction activities.
- Pollution and contamination of ground water due to surface runoff, unmanaged sewage discharge, leaks and spills, solvent, paints and chemical spills, hydrocarbon and fuel leaks and spills.

SURFACE WATER

- Disturbance and loss of ecological function of the habitat (physical structure) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines due to clearing and destruction of riparian and wetland vegetation, loss of fringing vegetation and erosion of denuded areas and destabilization of banks
- Pollution and contamination of surface water of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers.
- Disturbance and loss of hydrological function (quality and fluctuation properties) of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers particularly at the new River crossings due to impeded and / or redirected flow due to activity within the water course and destabilization of banks.

SOIL

- Soil contamination and pollution.
- Soil erosion by wind and rain due to the removal of stabilising vegetation, soil compaction by movement of construction vehicles, equipment and activities.

AIR

- Air pollution due emissions from construction vehicles and equipment.
- Dust liberated by general construction activities and movement of construction vehicles.
- Smoke from open fires used by site staff for heating and cooking as well as from uncontrolled fires.

BIODIVERSITY (FLORA)

- *Removal of invader alien species found in the riparian zones located along the banks of the watercourses (positive impact).*
- Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness due to site clearing ahead of construction, general construction activities and movement of construction vehicles, unmanaged sewage discharge, leaks and spills, solvent, paints and chemical spills, hydrocarbon and fuel leaks and spills, litter and other inert construction waste.
- Disturbance of sensitive habitats, specifically riparian zones.
- Destruction and damage to Conservation Important Species and protected trees.
- Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas.

BIODIVERSITY (FAUNA)

- Loss of riparian vegetation (faunal habitat) which acts as a wildlife corridor and is an important faunal habitat for the confirmed Vulnerable-listed species such as the Hippopotamus due to site clearing ahead of construction, general construction activities and movement of construction vehicles.
- Loss of general faunal habitat and ecological connectivity.
- Mortality of fauna due to dangerous trenches and excavations, persecution and extermination, solvent, paints and chemical spills (poisoning), construction material, litter and other inert construction waste (suffocation), collisions with construction vehicles
- Poaching and snaring of fauna on site by construction staff.
- Increased opportunity for smuggling of poached items out of the Lapalala Wilderness Reserve due to regular presence of large construction vehicles.

LAND USE & AGRICULTURAL POTENTIAL

- None.

HERITAGE

- Possible discovery of new important artefacts (positive impact).
- Damage to and / or destruction of archaeological, paleontological or historical artefacts unearthed during construction. This is of particular relevance to the following custodian sites: Melora, Bushmans Painting, Rapids, Kgokong Pan and Modumela.
- Damage to and/or destruction of rock art sites located at certain custodian sites, namely Bushman painting, Rapids and Kgokong Pan.
- Damage to and/or destruction of Late Iron Age sites located on certain custodian sites and along certain proposed access routes. This is of particular relevance to Melora and Modumela custodian sites and proposed access roads.
- Damage to and/or destruction of possible grave site located on the custodian site Burkia.

VISUAL

- Visual impact of construction, lighting and dust on sensitive visual receptors owing to the presence of construction equipment, camps and workers.
- Visual impact of construction, lighting and dust on conservation areas within the region (Waterberg Biosphere Reserve).

SOCIO-ECONOMICS

- *Stimulation of the local economy, especially the local service delivery industry (i.e. accommodation, catering, cleaning, transport and security, etc.) (positive impact).*
- *Creation of short-term employment and business opportunities and the opportunity for skills development and on-site training. (Positive impact). Jobs and employment opportunities will be created, with a percentage being low and semi-skilled.*

- Noise, dust and safety impacts and disturbance to adjacent landowners and other custodians due to general construction activities and movement of construction vehicles.
- An increase in construction workers and associated increase in social problems for the community.
- Increase in casual workers and associated increase in poaching.
- Increased risk of veld fires due to the presence of construction workers on site.

MUNICIPAL SERVICES & TRAFFIC

- Increase in traffic on the surrounding roads due to construction vehicles.
- Increase in the number and frequency of construction vehicles accessing the site and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.

Indirect impacts:

BIODIVERSITY (FLORA)

- Loss of floral biodiversity, Conservation Important Species and protected trees due to increased incidence of veld fires.

BIODIVERSITY (FAUNA)

- Loss of faunal biodiversity due to increased incidence of veld fires.

SOCIO-ECONOMICS

- Loss of property and threat to human life due to increased incidence of veld fires.

MUNICIPAL SERVICES & TRAFFIC

- Degradation of local roads due to the increase in the numbers of heavy vehicles.

Cumulative impacts:

BIODIVERSITY (FLORA)

- Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness.
- Cumulative loss of ecological function of sensitive habitats, specifically riparian zones.
- Cumulative reduction and damage to Conservation Important Species and protected trees.

BIODIVERSITY (FAUNA)

- Cumulative loss of faunal habitat, particularly the sensitive riparian habitat.

HERITAGE

- Cumulative loss of rock art and Late Iron Age sites resulting in an overall loss of these artefacts.

SOCIO-ECONOMICS

- *Community upliftment and the opportunity to up-grade and improve skills levels in the area (positive impact).*

MUNICIPAL SERVICES & TRAFFIC

- Cumulative increase in traffic and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.

Operational Phase

Direct impacts:

GROUND WATER

- Depletion of ground water resources due to over use and waste during operation.
- Pollution and contamination of ground water due to unmanaged storm water runoff, unmanaged sewage discharge, sewage leaks and spills, herbicides, pesticides and fertilisers, discharge and spill of solvents, paints, chemicals and cleaning products, discharge and spill of hydrocarbons and fuel.

SURFACE WATER

- Disturbance and loss of ecological function of the habitat (physical structure) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers due to encroachment of alien invasive species, uncontrolled vegetation clearing and access by staff and custodians/guests. This is of particular relevance to road crossings and sites located near to the watercourses such as the North Gate, Mohlatse Plains, Tamboti, Kogong View, Rundgren's Rest, Marula, Rapula Rocks, Rapids, Mooka, Lepotedi, Melora, Modumela, Kwena, Drangonfly, Molope Plains, Burkia, Bushmans Painting, Elephant Pool.
- Pollution and contamination of surface water. This is of particular relevance to road crossings and sites located near to the watercourses such as the North Gate, Mohlatse Plains, Tamboti, Kogong View, Rundgren's Rest, Marula, Rapula Rocks, Rapids, Mooka, Lepotedi, Melora, Modumela, Kwena, Drangonfly, Molope Plains, Burkia, Bushmans Painting, Elephant Pool.
- Disturbance and loss of hydrological function (quality and fluctuation properties) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers. This is of particular relevance to road crossings and sites located near to the watercourses such as the North Gate, Mohlatse Plains, Tamboti, Kogong View, Rundgren's Rest, Marula, Rapula Rocks, Rapids, Mooka, Lepotedi, Melora, Modumela, Kwena, Drangonfly, Molope Plains, Burkia, Bushmans Painting, Elephant Pool.

SOIL

- Soil contamination and pollution.
- Soil erosion due to soil compaction by uncontrolled movement of staff and visitors (especially vehicles), runoff over exposed or cleared areas that have failed to rehabilitate, disturbance of sensitive soils by uncontrolled movement of staff and visitors (especially vehicles).

AIR

- Air pollution by emissions from increased numbers of game drive vehicles and private vehicles.

BIODIVERSITY (FLORA)

- Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness due to uncontrolled vegetation clearing and access by staff and visitors, encroachment of alien invasive species, litter and waste.
- Disturbance of sensitive habitats, specifically riparian zones due to uncontrolled vegetation clearing and access by staff and visitors, encroachment of alien invasive species, litter and waste.
- Destruction and damage to Conservation Important Species and protected trees.
- Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas in the event that the rehabilitation process is not successful.

BIODIVERSITY (FAUNA)

- Loss of faunal habitat.
- Faunal disturbances, displacement of taxa and changes in distribution and abundance.
- Mortality of fauna due to persecution and extermination, solvents, paints, chemicals and cleaning products (poisoning), litter and waste (suffocation).
- Poaching and snaring of faunal species by staff.

LAND USE & AGRICULTURAL POTENTIAL

- None.

HERITAGE

- Damage to and / or destruction of archaeological, paleontological or historical artefacts owing to uncontrolled access by custodians, guests and staff. This is of particular relevance to the following custodian sites: Melora, Bushmans Painting, Rapids, Kgokong Pan and Modumela.
- Damage to and/or destruction of rock art sites due to uncontrolled access by custodians/guests/staff, litter, smoking, fires, sites being touched by custodians/guests/staff, located at certain custodian sites, namely Bushman painting, Rapids and Kgokong Pan.
- Damage to and/or destruction of Late Iron Age sites owing to uncontrolled access by custodians, guests and staff. This is of particular relevance to Melora and Modumela custodian sites and proposed access roads.
- Damage to and/or destruction of possible grave site located on the custodian site Burkia.

VISUAL

- Potential visual impact on sensitive visual receptors in close proximity to the proposed developments.
- Potential visual impact on sensitive visual receptors within the region.
- Potential visual impact on protected and conservation areas (i.e. the Waterberg Biosphere Reserve) within the study area.
- Potential visual impact of the solar panels on sensitive visual receptors in close proximity thereto.
- The potential visual impact of safety and security lighting of the developments at night on sensitive visual receptors in close proximity.

SOCIO-ECONOMICS

- *Stimulation of the local economy, especially the local service delivery industry (accommodation, catering, cleaning, transport, security etc. (positive impact).*
- *Generation of funds to contribute to the conservation of the Lapalala Wilderness Reserve (positive impact)*
- *Creation of long term employment and business opportunities as well as opportunities for skills development and transfer (positive impact).*
- *Creation of opportunities for local SMME's (positive impact).*
- Impact on adjacent land uses and activities.

MUNICIPAL SERVICES & TRAFFIC

- *Operational cost of running services and infrastructure, specifically electricity (positive impact). Operational cost is expected to be minimal in the long term as a result of off-grid design.*
- Increase in traffic on the surrounding roads due to increased visitor numbers.
- Increase in the number and frequency of vehicles accessing the site, and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.

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).

Cumulative impacts:

BIODIVERSITY (FLORA)

- Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness.
- Cumulative loss of ecological function of sensitive habitats, specifically riparian zones.
- Cumulative reduction and damage to Conservation Important Species and protected trees.

HERITAGE

- Cumulative loss of rock art an Late Iron Age sites resulting in an overall loss of these artefacts.

VISUAL

- The accumulation of built forms and within an otherwise natural environment.

SOCIO-ECONOMICS

- *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)*.
- *Promotion of social and economic development in the local communities and improvement in the overall wellbeing of the community (positive impact).*

MUNICIPAL SERVICES & TRAFFIC

- Cumulative increase in traffic on the surrounding roads due to increased visitor numbers.
- Cumulative increase in the number and frequency of vehicles accessing the site, and the resultant noise, dust, and safety impacts for other road users, adjacent landowners and residents of the local communities.
- Waste disposal practices will have an accumulative effect on the local landfill site's capacity to absorb waste.

Decommissioning Phase

The decommissioning of the facility is not anticipated at this stage and, therefore, no impacts are anticipated.

Activity	Impact summary	Significance	Proposed mitigation
Preferred Alternative: Alternative 1			
Planning and Design Phase	*Direct impacts:*		
	Ground Water		
	None.		
	Hydrology (Surface Water)		
	Risk to ecological function of the riparian habitat along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines	27 L	• Planning and compliance, including ground water, surface water and storm water management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Risk to hydrological function (quality and fluctuation properties) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines	33 M	
	Soil		
	Erosion risk to soils	27 L	• Planning and compliance, including ground water, surface water, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Air		
	None.		
	Biodiversity (Flora)		
	Risk to Waterberg Mountain Bushveld vegetation classified as Least Threatened	33 M	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Risk to sensitive habitats, specifically riparian zones along Lephalala River	33 M	
	Risk to Red List/Conservation important and protected trees.	24 L	
	Biodiversity (Fauna)		
	Risk to the riparian zone which acts as a wildlife corridor and is an important faunal habitat for the confirmed Vulnerable-listed species	27 L	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Risk of habitat fragmentation due to removal and alteration of the habitat	27 L	
	Land use and Agricultural potential		
	None		•
	Heritage		
	Risk to rock art sites located at certain custodian sites.	28 L	• Planning and compliance including heritage as per the EMPr (section 7.1.).
	Risk to Late Iron Age sites located on certain custodian sites and along certain proposed access routes.	42 M	
	Risk to possible grave site located on the custodian site Burkia.	28 L	
	Visual		
	Risk to visual quality of the surrounding area and sense of place	33 M	• Development footprint planning as per the EMPr (section 7.2). • Visual environment planning as per the EMPr (section 7.3).
	Risk of glare from high-tech and reflective materials used for solar panels	30 L	
	Socio-economic		
	None.		

Activity	Impact summary	Significance	Proposed mitigation
	Municipal services and Traffic		
	None.		
	Indirect impacts:		
	None.		
	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened	33 M	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Cumulative loss of sensitive habitats, specifically riparian zones	33 M	
	Cumulative reduction of Conservation important species and protected trees.	36 M	
	Biodiversity (Fauna)		
	Cumulative loss of faunal habitat.	20 L	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
Construction Phase	*Direct impacts:*		
	Ground Water		
	Depletion of ground water due to overuse and waste during construction activities	14 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control and access roads as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Vehicles and equipment management as per the EMPr (section 8.7).
	Pollution and contamination of ground water	14 L	
	Hydrology (Surface Water)		
	Disturbance and loss of ecological function of the habitat (physical structure) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines. *This is of particular relevance to road crossings and sites located near to the watercourses.*	24 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control, access roads and protection of the riparian system as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Stockpiles, storage and handling as per the EMPr (section 8.4). • Erosion control, including water management, storm water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Alien plant control as per the EMPr (section 8.6). • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including staff, visual as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Pollution and contamination of surface water of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers.	26 L	
	Disturbance and loss of hydrological function (quality and fluctuation properties) of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers particularly at the new River crossings. *This is of particular relevance to road crossings and sites located near to the watercourses.*	33 M	
	Soil		

Activity	Impact summary	Significance	Proposed mitigation
	Soil contamination and pollution	18 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control and access roads as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Stockpiles, storage and handling as per the EMPr (section 8.4). • Erosion control, including water management, storm water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Vehicles and equipment management as per the EMPr (section 8.7). • Rehabilitation as per the EMPr (section 8.10).
	Soil erosion by wind and rain	18 L	
	Air		
	Air pollution due emissions from construction vehicles and equipment.	24 L	• Site establishment, including site demarcation, accommodation, pollution control and access roads as per the EMPr (section 8.2) • Stockpiles, storage and handling as per the EMPr (section 8.4). • Erosion control, including water management, storm water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including visual as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Dust liberated by general construction activities and movement of construction vehicles.	21 L	
	Smoke from open fires used by site staff for heating and cooking as well as from uncontrolled fires	14 L	
	Biodiversity (Flora)		
	Removal of invader alien species found in the riparian zones (positive impact).	*30* *L*	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control, access roads, protection of flora, and protection of the riparian system as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Stockpiles, storage and handling as per the EMPr (section 8.4). • Erosion control, including water management, storm water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Alien plant control as per the EMPr (section 8.6). • Vehicles and equipment management as per the EMPr (section 8.7). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened	28 L	
	Disturbance of sensitive habitats, specifically riparian zones	39 M	
	Destruction and damage to Conservation important and protected trees.	30 L	
	Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas	26 L	
	Biodiversity (Fauna)		
	Loss of riparian vegetation (faunal habitat) which acts as a wildlife corridor and is an important faunal	22 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1)

Activity	Impact summary	Significance	Proposed mitigation
	habitat for the confirmed Vulnerable-listed species		• Site establishment, including site demarcation, accommodation, pollution control, access roads, protection of flora and protection of fauna as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Erosion control, including excavation, backfilling and trenching as per the EMPr (section 8.5). • Alien plant control as per the EMPr (section 8.6). • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including staff as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Loss of general faunal habitat and ecological connectivity.	30 L	
	Mortality of fauna	14 L	
	Poaching and snaring of fauna on site	27 L	
	Increased opportunity for smuggling of poached items out of the Lapalala Wilderness Reserve	27 L	
	Land use and Agricultural potential		
	None.		
	Heritage		
	Possible discovery of new important artefacts (Positive Impact)	*24* *L*	
	Damage to and / or destruction of archaeological, paleontological or historical artefacts unearthed during construction. *This is of particular relevance to the following custodian sites: Melora, Bushmans Painting, Rapids, Kgokong Pan and Modumela.*	16 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, access roads and protection of cultural heritage as per the EMPr (section 8.2)
	Damage to and/or destruction of rock art sites located at certain custodian sites, namely Bushman painting, Rapids and Kgokong Pan.	8 N	
	Damage to and/or destruction of Late Iron Age sites located on certain custodian sites and along certain proposed access routes. *This is of particular relevance to Melora and Modumela custodian sites and proposed access roads.*	20 L	
	Damage to and/or destruction of possible grave site located on the custodian site Burkia.	16 L	
	Visual		
	Visual impact of construction, lighting and dust on sensitive visual receptors.	21 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control and access roads as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Stockpiles, storage and handling as per the EMPr (section 8.4). • Erosion control, including water management, storm
	Visual impact of construction, lighting and dust on conservation areas within the region (Waterberg Biosphere Reserve).	12 N	

Activity	Impact summary	Significance	Proposed mitigation
			water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including staff, visual as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Socio-economic		
	*Stimulation of the local economy, especially the local service delivery industry (i.e. accommodation, catering, cleaning, transport and security, etc.)**(positive impact)***	*24 L*	• Socio-economic planning as per the EMPr (section 7.4). • Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including accommodation and access roads as per the EMPr (section 8.2) • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including staff as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9).
	*Creation of short-term employment and business opportunities and the opportunity for skills development and on-site training **(Positive impact).***	*36 M*	
	Noise, dust and safety impacts and disturbance to adjacent landowners and other custodians.	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 due to the presence of construction workers on site.	21 L	
	Municipal services and Traffic		
	Increase in traffic on surrounding roads due to construction vehicles.	21 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including access roads as per the EMPr (section 8.2) • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including visual as per the EMPr (section 8.8).
	Increase in the number and frequency of construction vehicles accessing the site and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.	15 L	
	Indirect impacts:		
	Biodiversity (Flora)		
	Loss of floral biodiversity, Conservation Important species and protected trees due to increased incidence of veld fires	16 L	• As above
	Biodiversity (Flora)		
	Loss of faunal biodiversity due to increased incidence of veld fires	20 L	• As above
	Socio-economics		
	Loss of property and threat to human life due to increased incidence of veld fires	16 L	• As above
	Traffic and services		
	Degradation of local roads due to the increase in the numbers of heavy vehicles.	21 L	• As above

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness.	27 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control, access roads, protection of flora, and protection of the riparian system as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Stockpiles, storage and handling as per the EMPr • (Section 8.4). • Erosion control, including water management, storm water management, excavation, backfilling and trenching as per the EMPr (section 8.5). • Alien plant control as per the EMPr (section 8.6). • Vehicles and equipment management as per the EMPr (section 8.7). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Cumulative loss of ecological function of sensitive habitats, specifically riparian zones.	26 L	
	Cumulative reduction and damage to Conservation important and protected trees. I	24 L	
	Biodiversity (Fauna)		
	Cumulative loss of faunal habitat.	20 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, accommodation, pollution control, access roads, protection of flora, and protection of fauna as per the EMPr (section 8.2) • Materials management, including solid, liquid and hazardous waste, concrete and cement work, fuel and hazardous material as per the EMPr (section 8.3). • Erosion control, including excavation, backfilling and trenching as per the EMPr (section 8.5). • Alien plant control as per the EMPr (section 8.6). • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including staff as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9). • Rehabilitation as per the EMPr (section 8.10).
	Heritage		
	Cumulative loss of rock art and Late Iron Age sites resulting in an overall loss of these artefacts.	**20** **L**	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including site demarcation, access roads and protection of heritage resources as per the EMPr (section 8.2)
	Socio-economics		
	Community upliftment and the opportunity to up-grade and improve skills levels in the area ***(positive impact)***	*24* *L*	• Socio-economic planning as per the EMPR (section 7.4). • Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including accommodation and access roads as per the EMPr (section 8.2) • Vehicles and equipment management as per the EMPr

Activity	Impact summary	Significance	Proposed mitigation
			(section 8.7). • Socio-economic management, including staff as per the EMPr (section 8.8). • Fire management as per the EMPr (section 8.9).
	Traffic and services		
	Cumulative increase in traffic and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.	16 L	• Pre-construction planning, including planning and preparation as per the EMPr (section 8.1) • Site establishment, including access roads as per the EMPr (section 8.2) • Vehicles and equipment management as per the EMPr (section 8.7). • Socio-economic management, including visual as per the EMPr (section 8.8).
Operational Phase	*Direct impacts:*		
	Ground Water		
	Depletion of ground water resources due to over use and waste during operation.	18 L	• Biodiversity management, including access roads and resource management as per the EMPr (section 9.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPr (section 9.2) • Erosion control as per the EMPr (section 9.3) • Socio economic management, including staff management as per the EMPR (section 9.5) • Vehicles and equipment management as per the EMPr (section 9.4)
	Pollution and contamination of ground water	22 L	
	Hydrology (Surface Water)		
	Disturbance and loss of ecological function of the habitat (physical structure) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers.	18 L	• Biodiversity management, including access roads, resource management, protection of flora and alien plant control as per the EMPr (section 9.1) • Materials management, including solid, liquid and hazardous waste, fuel and hazardous material as per the EMPr (section 9.2) • Erosion control as per the EMPr (section 9.3) • Vehicles and equipment management as per the EMPr (section 9.4) • Socio economic management, including staff management as per the EMPr (section 9.5) • Fire management as per the EMPr (section 9.6)
	Pollution and contamination of surface water	20 L	
	Disturbance and loss of hydrological function (quality and fluctuation properties) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers.	18 L	
	Soil		
	Soil contamination and pollution	18 L	• Biodiversity management, including access roads, resource management, protection of flora and alien plant control as per the EMPr (section 9.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPR (section 9.2) • Erosion control as per the EMPr (section 9.3) • Vehicles and equipment management as per the EMPr (section 9.4) • Socio economic management, including staff management as per the EMPr (section 9.5)
	Soil erosion	18 L	
	Air		
	Air pollution by emissions from increased numbers of private vehicles and game drive vehicles.	33 M	• Socio economic management, including staff management as per the EMPr (section 9.5)

Activity	Impact summary	Significance	Proposed mitigation
	Biodiversity (Flora)		
	Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness	18 L	• Biodiversity management, including access roads, resource management, protection of flora and alien plant control as per the EMPr (section 9.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPR (section 9.2) • Erosion control as per the EMPr (section 9.3) • Vehicles and equipment management as per the EMPr (section 9.4) • Socio economic management, including staff management as per the EMPr (section 9.5) • Fire management as per the EMPr (section 9.6)
	Disturbance of sensitive habitats, specifically riparian zones	27 L	
	Destruction and damage to Conservation important and protected trees.	20 L	
	Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas in the event that the rehabilitation process is not successful.	22 L	
	Biodiversity (Fauna)		
	Loss of faunal habitat	18 L	• Biodiversity management, including access roads, resource management, protection of flora, alien plant control and protection of fauna as per the EMPr (section 9.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPR (section 9.2) • Erosion control as per the EMPr (section 9.3) • Vehicles and equipment management as per the EMPr (section 9.4) • Socio economic management, including staff management, and visual impact management as per the EMPr (section 9.5) • Fire management as per the EMPr (section 9.6)
	Faunal disturbances, displacement of taxa and changes in distribution and abundance	27 L	
	Mortality of fauna	20 L	
	Poaching and snaring of faunal species by staff.	24 L	
	Land use and Agricultural potential		
	None.		•
	Heritage		
	Damage to and / or destruction of archaeological, paleontological or historical artefacts owing to uncontrolled access by custodians, guests and staff.	18 L	• Resource management, including the protection of heritage resources as per the EMPr (section 9.1)
	Damage to and/or destruction of rock art sites located at certain custodian sites, namely Bushman painting, Rapids and Kgokong Pan.	20 L	
	Damage to and/or destruction of Late Iron Age sites owing to uncontrolled access by custodians, guests and staff. *This is of particular relevance to Melora and Modumela custodian sites and proposed access roads.*	20 L	
	Damage to and/or destruction of possible grave site located on the custodian site Burkia.	8 N	
	Visual		
	Potential visual impact on sensitive visual receptors in close proximity to the proposed developments.	24 L	• Socio economic management, including staff management and visual impact management as per the

Activity	Impact summary	Significance	Proposed mitigation
	Potential visual impact on sensitive visual receptors within the region	20 L	EMPr (section 9.5)
	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		
	Stimulation of the local economy, especially the local service delivery industry (accommodation, catering, cleaning, transport, security etc.) (positive impact)	*33* *M*	• Socio economic management, including staff management, and visual impact management as per the EMPr (section 9.5)
	Generation of funds to contribute to the conservation of the Lapalala Wilderness Reserve (positive impact)	*56* *H*	
	Creation of long term employment and business opportunities as well as opportunities for skills development and transfer (positive impact)	*52* *M*	
	Creation of opportunities for local SMME's (positive impact)	*48* *M*	
	Impact on adjacent land uses and activities.	8 N	
	Municipal services and Traffic		
	Operational cost of running services and infrastructure, specifically electricity (positive impact). *Operational cost is expected to be minimal in the long term as a result of off-grid design.*	*28* *L*	• Socio economic management, including staff management and visual impact management as per the EMPr (section 9.5)
	Increase in traffic on the surrounding roads due to increased visitor numbers.	30 L	
	Increase in the number and frequency of vehicles accessing the site, and the resultant noise, dust, and safety impacts on other road users, residents of the local community and adjacent landowners.	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).	28 L	• Socio economic management, including staff management, and visual impact management as per the EMPr (section 9.5)
	Cumulative impacts:		
	Biodiversity (Flora)		

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness.	22 L	• Biodiversity management, including access roads, resource management, protection of flora and alien plant control as per the EMPr (section 9.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPR (section 9.2) • Erosion control as per the EMPr (section 9.3) • Vehicles and equipment management as per the EMPr (section 9.4) • Socio economic management, including staff management as per the EMPr (section 9.5) • Fire management as per the EMPr (section 9.6)
	Cumulative disturbance of sensitive habitats, specifically riparian zones	22 L	
	Cumulative reduction and damage to Conservation important and protected trees.	28 L	
	Heritage		
	Cumulative loss of rock art an Late Iron Age sites resulting in an overall deduction in these artefacts.	24 L	• Resource management, including the protection of heritage resources as per the EMPr (section 9.1)
	Visual		
	The accumulation of built forms and within an otherwise natural environment.	22 L	• Socio economic management, including staff management and visual impact management as per the EMPr (section 9.5)
	Socio-economics		
	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)	*33* *M*	• Socio economic management, including staff management and visual impact management as per the EMPr (section 9.5)
	Promotion of social and economic development in the local communities and improvement in the overall wellbeing of the community (positive impact)	*27* *L*	
	Services and traffic		
	Cumulative increase in traffic on the surrounding roads due to increased visitor numbers.	22 L	• Planning and compliance, including waste management as per the EMPr (section 7.1) • Materials management, including solid liquid and hazardous waste, fuel and hazardous material as per the EMPr (section 9.2) • Socio economic management, including staff management, and visual impact management as per the EMPr (section 9.5)
	Cumulative increase in the number and frequency of vehicles accessing the site, and the resultant noise, dust, and safety impacts for other road users, adjacent landowners and residents of the local communities.	22 L	
	Waste disposal practices will have an accumulative effect on the local landfill site's capacity to absorb waste.	22 L	

Activity	Impact summary	Significance	Proposed mitigation
Technology Alternative: Alternative 2			
Planning and Design Phase	*Direct impacts:*		
	Ground Water		
	None.		
	Hydrology (Surface Water)		
	Risk to ecological function of the	52	• Planning and compliance, including ground water,

Activity	Impact summary	Significance	Proposed mitigation
	riparian habitat along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines. *Increased impact is expected due to the installation of Eskom power cables under watercourses.*	M	surface water and storm water management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Risk to hydrological function (quality and fluctuation properties) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines. *Increased impact is expected due to the installation of Eskom power cables under watercourses*.	45 M	
	Soil		
	As per Alternative 1		• As per Alternative 1
	Air		
	None.		
	Biodiversity (Flora)		
	Risk to Waterberg Mountain Bushveld vegetation classified as Least Threatened. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	33 M	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Risk to sensitive habitats, specifically riparian zones along Lephalala River. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	60 H	
	Biodiversity (Fauna)		
	As per Alternative 1		• As per Alternative 1
	Land use and Agricultural potential		
	None		•
	Heritage		
	As per Alternative 1		• As per Alternative 1
	Visual		
	Risk to visual quality of the surrounding area and sense of place. *Increased impact is anticipated owing to the extension of the existing overhead powerlines.*	45 M	• Development footprint planning as per the EMPr (section 7.2). • Visual environment planning as per the EMPr (section 7.3).
	Socio-economic		
	None.		
	Municipal services and Traffic		
	None.		

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts:		
	None.		
	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	33 M	• Planning and compliance, including protected species, storm water management and waste management as per the EMPr (section 7.1). • Development footprint planning as per the EMPr (section 7.2).
	Cumulative loss of sensitive habitats, specifically riparian zones. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	60 H	
	Biodiversity (Fauna)		
	As per Alternative 1		• As per Alternative 1
Construction Phase	*Direct impacts:*		
	Ground Water		
	As per Alternative 1		• As per Alternative 1
	Hydrology (Surface Water)		
	Disturbance and loss of ecological function of the habitat (physical structure) along the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	27 L	• As per Alternative 1
	Pollution and contamination of surface water of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.*	30 L	
	Disturbance and loss of hydrological function (quality and fluctuation properties) of the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers particularly at the new River crossings.	42 M	

Activity	Impact summary	Significance	Proposed mitigation
	Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites.		
	Soil		
	As per Alternative 1		• As per Alternative 1
	Soil erosion by wind and rain. *Increased impact is expected owing to the extension of the existing overhead powerlines. This will result in the development footprint increasing and being located outside of the custodian development sites. The removal of stabilizing vegetation along the banks of the watercourses could lead to bank destabilization.*	33 M	
	Air		
	As per Alternative 1		• As per Alternative 1
	Biodiversity (Flora)		
	As per Alternative 1		• As per Alternative 1
	Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	36 M	
	Disturbance of sensitive habitats, specifically riparian zones. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	39 M	
	Biodiversity (Fauna)		
	As per Alternative 1		• As per Alternative 1
	Loss of riparian vegetation (faunal habitat) which acts as a wildlife corridor and is an important faunal habitat for the confirmed Vulnerable-listed species. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	39 M	
	Land use and Agricultural potential		
	None.		
	Heritage		
	As per Alternative 1		• As per Alternative 1
	Visual		
	As per Alternative 1		• As per Alternative 1
	Socio-economic		

Activity	Impact summary	Significance	Proposed mitigation
	As per Alternative 1		• As per Alternative 1
	Municipal services and Traffic		
	As per Alternative 1		• As per Alternative 1
	Indirect impacts:		
	Biodiversity (Flora)		
	As per Alternative 1		• As per Alternative 1
	Biodiversity (Flora)		
	As per Alternative 1		• As per Alternative 1
	Socio-economics		
	As per Alternative 1		• As per Alternative 1
	Traffic and services		
	As per Alternative 1		• As per Alternative 1
	Cumulative impacts:		
	Biodiversity (Flora)		
	Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation classified as Least Threatened and associated loss of species richness. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	27 L	• As per Alternative 1
	Cumulative loss of ecological function of sensitive habitats, specifically riparian zones. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	39 M	
	Biodiversity (Fauna)		
	Cumulative loss of faunal habitat. *This impact is expected to be slightly higher owing to the increase in the development footprint due to the extension of the powerlines.*	28 L	• As per Alternative 1
	Heritage		
	As per Alternative 1		• As per Alternative 1
	Socio-economics		
	As per Alternative 1		• As per Alternative 1
	Traffic and services		
	As per Alternative 1		• As per Alternative 1
Operational Phase	*Direct impacts:*		
	Ground Water		
	As per Alternative 1		• As per Alternative 1
	Hydrology (Surface Water)		
	As per Alternative 1		• As per Alternative 1
	Soil		
	As per Alternative 1		• As per Alternative 1
	Air		

Activity	Impact summary	Significance	Proposed mitigation
	As per Alternative 1		• As per Alternative 1
	Biodiversity (Flora)		
	As per Alternative 1		• As per Alternative 1
	Biodiversity (Fauna)		
	As per Alternative 1		• As per Alternative 1
	Land use and Agricultural potential		
	None.		•
	Heritage		
	As per Alternative 1		• As per Alternative 1
	Visual		
	As per Alternative 1		• As per Alternative 1
	Visual impact of the overhead powerlines on the sense of place of the region.	55 M	
	Socio-economic		
	As per Alternative 1		• As per Alternative 1
	Municipal services and Traffic		
	As per Alternative 1		• As per Alternative 1
	Operational cost of running services and infrastructure, specifically electricity. *Increased impact is expected due to higher operational cost in the long term as a result of complete dependence on Eskom utility.*	55 M	
	Indirect impacts:		
	Visual		
	As per Alternative 1		• As per Alternative 1
	Cumulative impacts:		
	Biodiversity (Flora)		
	As per Alternative 1		• As per Alternative 1
	Heritage		
	As per Alternative 1		• As per Alternative 1
	Visual		
	As per Alternative 1		• As per Alternative 1
	Socio-economics		
	As per Alternative 1		• As per Alternative 1
	Services and traffic		
	As per Alternative 1		• As per Alternative 1

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.

Preferred Alternative: Alternative 1

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

The Limpopo Province Biodiversity Conservation Assessment classifies 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).

No threatened plant species were confirmed during fieldwork but two **Near Threatened** and two **Declining** species as well as nine species **protected** either under the Limpopo Environmental Management (Act No. 7 of 2003) or the National Forests Act (No. 30 of 1998) were recorded. No threatened plant species potentially occur.

Custodian Sites and Management infrastructure:

A tread lightly approach will be encouraged for all of the development sites in terms of the design and layout of the proposed private lodges/residences and management infrastructure. A 32 m buffer will be respected with regard to all watercourses, namely the Lephalala, Bloklandspruit, Klein Mogalakwena Rivers and drainage lines, with the exception of Rapula Rock, Rundgren's Rest and Kwena which slightly encroach into the 32 m buffer. The 100 year flood line for the Lephalala River will be respected for all sites. This is of particular relevance to sites located near watercourses such as Mohlatse Plains, Tamboti, Kgokong Pan, Kings Pool, Buffalo Pool, Rundgren's Rest, Marula, Rapula Rocks, Rapids, Mooka, Lepotedi, Melora Alternative, Modumela, Kwena, Drangonfly, Molope Plains, Burkia, Tholo Plains, Bushmans Painting, Elephant Pool, as well as, the road crossings.

Majority of the Custodian sites and Management infrastructure sites are located in areas with a **low to moderate** biodiversity/development conflict sensitivity. However, one site- Marula- has a **high** sensitivity owing to the riparian zone along the Lephalala River and riparian forests which contains a few plant species found at no other site.

Marula, Rapula Rock, Melora Alternative, Rundgren's Rest, Kwena and Molope Plains Custodian sites encroach into vegetation communities with a **high** sensitivity rating owing to the riparian zone along the Lephalala River. In order to take advantage of the river views and the screening properties of the tree canopies, these sites need to be as close to the river as possible, while still respecting the 1:100 floodline. Development in the riparian zones will proceed with caution, and where possible, only low impact infrastructure such as boardwalks and decks will be placed in these areas. Additionally, strict mitigation measures will be put in place and must be adhered to at all times.

It should be noted that only a very small portion (approximately 10 Ha) of vegetation will be cleared for the entire development, while the remaining 45 000 Ha will be conserved and protected.

Three rock art sites are located within the Bushman Painting, Rapids and Kgokong Pan Custodian sites, however, it should be noted that they are not located within the 80 m radius development envelope. Seven Late Iron Age settlements were recorded within the Modumela and Melora Custodian sites. Once again, these sites are not located within the 80 m development envelope. All of these sites will be demarcated as no-go zones and strict mitigation measures put in place to ensure their conservation and protection.

Additionally, a possible grave site was located at Burkia. A watching brief is recommended in this regard.

Sewage treatment will be via Biorock or a similar biodigestor system. 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 Wilderness, inclusive of all of the Custodian sites and management infrastructure, will be via solar power units and backup generators. Solar panels will roof and/ pole mounted.

Roads:

Many of the proposed roads are located in areas which are currently being cleared of pioneer trees and shrubs on old lands. These sites have a **low sensitivity** and very few species of conservation-concern occur. Flatter areas within rocky woodland are assessed as having **moderate sensitivity** due to the ability to support high biodiversity including Declining, Near Threatened and protected plant species, as well as, the potential to support threatened fauna. Steep slopes and riparian zones are deemed to have a **high sensitivity**. Steep slopes support woodland or thicket which supports a high biodiversity of fauna and flora. Erosion, loss of topsoil and biodiversity are major issues and drainage is extremely difficult to control. Riparian zones are home to confirmed Vulnerable listed fauna, such as the African Finfoot and Hippopotamus and also acts as a corridor for wildlife.

5 roads that are proposed are located on steep slopes. Only one of the roads, RD046 links 2 Custodian Sites, namely Tamboti and Kogong View. The remaining 4 are just joining roads. Where roads are to be built on steep slopes, the road must follow the contours of the landscape and be mindful of sensitive vegetation and other features. Strict mitigation measures, particularly pertaining to stormwater must be implemented.

No clear archaeological remains were noted on the proposed routes from the air, however, this does not mean that archaeological sites will not be affected. An archaeologist should be on site during some sections of construction. The proposed access road to the Melora Custodian site will negatively impact on 3 archaeological sites.

Statement:

All of the proposed development sites are acceptable for development and 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 disturbance/ loss of hydrological function of watercourses and disturbance of sensitive habitats such as riparian zones. This is due to certain sections of the proposed road crossings and the placement of the private lodges/residences within areas of high sensitivity. It should, however, be noted that the severity of this impact on the sensitive habitats is directionally proportional to the placement of the private lodges/residences within sensitive vegetation communities. The more the private lodges/residences encroach into the sensitive areas, the higher the anticipated impact and vice versa. This is of particular relevance to the following Custodian Sites: Marula, Rapula Rock, Rundgren's Rest, Kwena and Molope Plains.

While the post mitigation significance rating for the destruction/disturbance of archaeological sites is low, the proposed access road to the Melora Custodian site will **negatively** impact on 3 archaeological sites. This access road is therefore **not supported.**

Similarly, while majority of the proposed roads are located in areas with a **low** sensitivity, twenty-nine (29) of these proposed roads are located in areas with a **high** sensitivity. These areas include steep slopes and drainage lines/streams. Drainage line and stream crossings are to be approached in a very sensitive manner with strict mitigation. Of the 5 roads proposed on steep slopes, only one may be developed, RD046 that links Tamboti and Kogong View. The remaining 4 proposed roads, RD047, RD041, RD 060 and RD 106 are **not** recommended for development and are not supported.

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 all of the development sites (excluding the 4 proposed roads on steep slopes and the access road to the Melora Custodian site) be supported on the condition that all mitigation measures

mentioned in this report, the specialist studies and the draft EMPr are implemented and adhere to throughout the project lifecycle.

Technology Alternative: Alternative 2

The Technology Alternative includes the same sites and roads as the Preferred Alternative: Alternative 1, and as such, all arguments hold true for this alternative. All service aspects will be also be as per the Preferred Alternative: Alternative 1, with the exception that power will not be supplied off grid but rather via Eskom. The existing Eskom lines will be extended both overhead and underground in order to minimize the visual impact. Burying the cables poses greater risk to the vegetation, especially the riparian habitats.

The extent of the development footprint is also increased owing to the fact that construction is taking place outside of the proposed Custodian Site development envelopes.

Statement:

The Technology Alternative will result in higher significance ratings for certain aspects, such as, surface water, soil, flora and fauna, during the construction phase due to the elevated environmental risks associated with the extension and burying of Eskom power cables. The post mitigation significance for the construction phase will be predominately **low** to **medium. Increased impacts** as compared to the Preferred Alternative, are anticipated for the disturbance and loss of hydrological function of water courses, soil erosion, loss of vegetation and disturbance to sensitive habitats (riparian) and wildlife corridors owing to the extension of the power cables.

The operational impacts will be similar to those of the Preferred Alternative, with residual impacts being mostly of low significance. Post mitigation significance will be **moderate** with regard to the higher operational costs in the long term associated with complete dependence on the Eskom utility, as well as, the visual impact on the receiving environment due to the overhead powerlines.

Taking the above into consideration, it is recommended that the Technology Alternative **not** be supported due to the increase in extent of the development footprint and the associated increase in negative impacts on the receiving environment. The Preferred Alternative, which includes green energy technology, is favoured owing to renewable energy generation which is conducive in a soon-to-be Protected Area.

No-go alternative

The No-go Alternative implies that the development of the proposed Custodian Sites and Management Infrastructure within Lapalala Wilderness will not take place. In this scenario, the receiving environment will not be impacted upon negatively in any manner, with particular reference to cultural heritage, 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.

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

SECTION E. RECOMMENDATION OF PRACTITIONER

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

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 Custodian sites and Management Infrastructure in Lapalala Wilderness will take place in Waterberg Mountain Bushveld, which was assessed by Mucina & Rutherford (2006) as **Least Threatened.** Limited encroachment into sensitive habitats (i.e. riparian) will occur and the 32 m buffer around watercourses for the most part will be respected, where the 1:100 year flood line will be respected for all sites.

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:

<u>Planning and Design Phase:</u>

- 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 riparian zone and above the 1/100 year flood line of drainage lines and rivers. This also includes all areas with High sensitivity where only boardwalks or decks should be permitted.
- The sensitivity map for each Custodian Site must be used as a decision tool to guide the layout design for the private lodge/residence. Development on areas of high environmental sensitivity must be avoided.
- A suitably experienced ecologist / botanist should undertake a pre-construction (planning phase) walk-through all the sites earmarked for development and 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.
- An experienced botanist should accompany the road construction teams and walk ahead of construction in order to mark plant species of conservation concern to be avoided or that may need to be relocated prior to any site clearance activity taking place.
- A further wet season ecology survey of the final approved lodge sites should take place prior to any construction activity being allowed. If findings of such a study require additional mitigation measures to be implemented, these will have to be attended to prior to construction.
- A qualified archaeologist must be on site during the initiation phase of the access roads to guide the alignment of the roads to prevent any possible impacts on the Late Iron Age sites and potential graves.
- Refine the final layout so that disturbance of sensitive environments is avoided/ minimized. Adjust the location of facilities so as to minimise impact on the riparian zone.
- All permanent infrastructures at all the sites preferably to be situated outside of the riparian zone and above the 1/100 year floodline of drainage lines and rivers. This also includes all areas with High sensitivity. If development

within the riparian zone is unavoidable due to terrain, access or substrate, the proposed infrastructure should comply with the following mitigation measures and recommendations:

  - No canopy (tall) trees to be removed. All infrastructure to be designed around them;
  - Access to the construction site within the riparian zone should only be from the terrestrial side, not from the drainage line / river bed itself;
  - All lay-down and stockpile areas and equipment storage to be situated outside the riparian zone;
  - All reasonable measures to be taken during construction to stabilise steep banks in the riparian zone against erosion and collapse;
  - All septic tanks to be constructed well outside the riparian zone. A minimum distance of 15m is recommended
  - An ECO should be appointed to supervise and guide construction workers

- All steep slopes should be excluded from the development options, including roads and lodge sites.

Construction Phase:

- A suitably experienced botanist should be present on site at the time of pegging so as to identify sensitive plants or habitats.
- All steep slopes should be excluded from the development options, including roads and lodge sites.
- Road options through riparian vegetation should be limited to areas with low vegetation in order to protect the integrity of tall riparian woodland and forest.
- All proposed roads to contain adequate stormwater drainage and erosion control measures.
- Protect all areas susceptible to erosion, particularly steep slopes, and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas.
- A suitably experienced botanist should be appointed to search the footprint of each site and associated infrastructure prior to site clearance.
- An experienced botanist should accompany the road construction teams and walk ahead of construction in order to mark plant species of conservation concern to be avoided or that may need to be relocated prior to any site clearance activity taking place.
- Any plant species of conservation concern (other than highly threatened species) or protected species located during these searches must be relocated if possible to representative habitat as close as possible to the point of removal.
- All infrastructure at all the sites to be situated outside of the riparian zone and above the 1/100 year flood line of drainage lines and rivers. This also includes all areas with High sensitivity where only boardwalks or decks should be permitted.
- Road options through riparian vegetation should be limited to areas with low vegetation in order to protect the integrity of tall riparian woodland and forest.
- The road crossings should be placed in such a way so as to minimise disturbance to riparian vegetation, especially large older trees and sensitive species.
- Where avoidance or pruning of the nationally or provincially protected trees is not possible, pruning or removal of the trees can only be undertaken once a permit authorising the contractor to do so has been granted by the Department of Agriculture, Forestry and Fisheries (DAFF) or LEDET. The activity can only proceed, once the permit has been issued.
- A qualified archaeologist must be on site during the planning and initiation phase to guide the alignment of the

roads to prevent any possible impacts on the Late Iron Age sites.

- Archaeological sites must be clearly demarcated to prevent any damage/ destruction.
- Placement of access tracks must be carefully planned to avoid and prevent impacts to archaeological sites.
- A watching brief is compulsory during the construction phase of the access tracks (on site heritage practitioner).
- A watching brief is recommended during the construction phase of the private lodge/residence on Burkia (on-site heritage practitioner).
- No fires are permitted in, or near, any of the rock art sites located at Bushman's Painting, Rapids and Kgokong Pan.
- Access to the rock art sites located at Bushman's Painting, Rapids and Kgokong Pan should not be permitted.

Operational Phase:

- Rock art sites located at Bushman's Painting, Rapids and Kgokong Pan:
    - No littering, smoking etc. is permitted at the rock art sites
    - Custodians/visitors/staff must adhere to the directions of the guide/custodian.
    - Visitors may not stray from the route indicated by the guide/custodian
    - Souvenir/artefact collection is strictly forbidden.
    - No fires are permitted in, or near, any of the rock art shelters or overhangs.
    - Under no circumstances may the rock art paintings be touched or sprayed with water.
    - An annual monitoring programme must be established by each custodian to record the condition of the rock panels.
- Late Iron Age sites located at Melora and Modumela:
    - Sensitive structures and deposits must be avoided during site visits, including stone walling, middens, hut foundations, or inside enclosures with deposits (cattle enclosures).
    - Custodians will communicate the importance and sensitivity of the sites to visitors.
    - Visitors will be instructed to adhere to the directions of the guide/custodian.
    - Visitors will not be allowed to stray from the route indicated by the guide/custodian.
    - Not littering, smoking, etc. will be allowed.
    - Souvenir/artefact collection is strictly forbidden.
    - All possible measures must be taken to maintain the archaeological and natural integrity of the site.
    - No fires are allowed in or near any of the stone-walled structures.
    - An annual monitoring programme must be established by each custodian to record the condition of the stonewalls.

Assuming that the above recommendations are implemented and adhered to, there is no reason why the proposed development of Custodian sites and Management Infrastructure in Lapalala Wilderness 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

Appendix E: Public Participation

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Impact Assessment

Appendix H: Other information
- H.1: Site Coordinates
- H.2: Linear Activity Coordinates
- H.3: Property Descriptions
- H.4: Biorock Treatment System

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: SITE MAPS

APPENDIX B: PHOTOGRAPHS

APPENDIX C: FACILITY ILLUSTRATION

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

APPENDIX D.2: HERITAGE IMPACT ASSESSMENT

APPENDIX D.3: VISUAL IMPACT ASSESSMENT

APPENDIX E: PUBLIC PARTICIPATION

APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

APPENDIX G: IMPACT ASSESSMENT

APPENDIX H: OTHER INFORMATION
APPENDIX H.1: SITE COORDINATES

APPENDIX H.2: LINEAR ACTIVITY COORDINATES

APPENDIX H.3: PROPERTY DESCRIPTIONS

APPENDIX H.4: BIOROCK TREATMENT SYSTEM