

***DRAFT BASIC ASSESSMENT REPORT***  
***March 2014***

**PROPOSED MARA TRAILS CAMP, ON JAGTERSUS 418 KQ,  
IN THE MARAKELE PARK (PTY) LTD SECTION OF THE MARAKELE NATIONAL PARK**

**DEA Reference: 14/12/16/3/3/1/1095**



Prepared for:

**The Marakele Park (Pty) Ltd**

Prepared by:



For submission to:



**environmental affairs**

Department:  
Environmental Affairs  
**REPUBLIC OF SOUTH AFRICA**



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**

|  |
|--|
|  |
|  |
|  |

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

---

### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.



## Definitions and Terminology

---

|                                    |   |
|------------------------------------|---|
| Environmental Management Programme | An Environmental Management Programme in relation to identified or specified activities envisaged in Chapter 5 of the Act and described in Regulation 34.   |
| Environmental Impact Assessment    | An application to which scoping must be applied, means the process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application”  |
| Environmental Control Officer      | A person appointed by the project manager, developer, engineer or contractor to oversee compliance to the EMP. This person can be an internal appointment or an external consultant/specialist depending on the authorities’ requirements.  |
| Project Manager / Engineer         | Designated project manager / engineer for the construction project.   |
| Proponent / Client / Developer     | Person or company responsible for proposing the project.  |
| Contractor                         | Person and/or company appointed to complete project.  |
| I&AP                               | An Interested and Affected Party contemplated in Section 24(4)(d) of the Act, and which in terms of that section includes –<br><br>(a) Any person, group of persons or organisation interested in or affected by an activity; and<br>(b) Any organ of State that may have jurisdiction over any aspect of the activity. |
| The Act                            | The National Environmental Management Act, 1998 (Act No. 107 of 1998)”  |

## Abbreviations and Acronyms

---

|       |  |
|-------|--|
| EA    | Environmental Authorisation  |
| EAP   | Environmental Assessment Practitioner as defined in Section 1 of the Act Environmental Assessment Practitioner |
| ECO   | Environmental Control Officer  |
| EMPr  | Environmental Management Programme   |
| EIA   | Environmental Impact Assessment  |
| EIR   | Environmental Impact Report  |
| ENPAT | Environmental Potential Atlas  |
| DEA   | Department of Environmental Affairs  |
| DME   | Department of Minerals and Energy  |
| DWAF  | Department of Water Affairs and Forestry   |
| I&AP  | Interested and Affected Party  |
| LMM   | Lephalale Local Municipality   |
| MNP   | Marakele National Park   |
| SAHRA | South African Heritage Resources Agency  |
| SANBI | South African National Biodiversity Institute  |
| SMME  | Small Medium and Micro Enterprise  |
| TMP   | The Marakele Park  |



# Contents

---

|   |    |
|---|----|
| Definitions and Terminology.....                                | 3  |
| Abbreviations and Acronyms.....                                 | 4  |
| Contents.....   | 5  |
| List of Appendices.....   | 6  |
| Introduction.....   | 8  |
| Application Information.....                                    | 8  |
| Invitation to Comment on the Draft Basic Assessment Report..... | 9  |
| <br>  |    |
| Section A: Activity information.....                            | 10 |
| 1. Project Description.....                                     | 10 |
| 2. Feasible and Reasonable Alternatives.....                    | 11 |
| 3. Physical Size of the Activity.....                           | 13 |
| 4. Site Access.....   | 14 |
| 5. Locality Map.....  | 14 |
| 6. Layout/Route Plan.....                                       | 14 |
| 7. Sensitivity Map.....   | 15 |
| 8. Site Photographs.....  | 15 |
| 9. Facility Illustration.....                                   | 15 |
| 10. Activity Motivation.....                                    | 15 |
| 11. Applicable Legislation, Policies and/or Guidelines.....     | 22 |
| 12. Waste, Effluent, Emission and Noise Management.....         | 25 |
| 13. Water Use.....  | 27 |
| 14. Energy Efficiency.....                                      | 28 |
| <br>  |    |
| Section B: Site/Area/Property Description.....                  | 29 |
| 1. Gradient of the Site.....                                    | 30 |
| 2. Location in the Landscape.....                               | 30 |
| 3. Groundwater, Soil and Geological stability of the site.....  | 30 |
| 4. Groundcover.....   | 31 |
| 5. Surface Water.....   | 31 |
| 6. Land Use Character of Surrounding Area.....                  | 32 |
| 7. Cultural / Historical Features.....                          | 34 |
| 8. Socio-Economic Character.....                                | 34 |
| 9. Biodiversity.....  | 36 |
| <br>  |    |
| Section C: Public Participation.....                            | 39 |
| 1. Advertisement and Notice.....                                | 39 |
| 2. Determination of Appropriate Measures.....                   | 39 |
| 3. Issues raised by interested and affected parties.....        | 40 |
| 4. Comments and Response Report.....                            | 40 |
| 5. Authority Participation.....                                 | 41 |
| 6. Consultation with other Stakeholders.....                    | 41 |



|  |    |
|--|----|
| Section D: Impact Assessment .....   | 42 |
| 1. Impacts that may result from the planning and design, construction, operational, decommissioning and closure phases as well as proposed management of identified impacts and proposed mitigation measures ..... | 42 |
| 2. Environmental Impact Statement.....   | 55 |
| Section E: Recommendation of Practitioner .....  | 59 |
| Section F: Appendixes .....  | 61 |

## List of Appendices

---

### Appendix A: Maps

- APP A.1 Orientation
- APP A.2 Detailed Sites Map
- APP A.3.1 Visual Exposure Site 1
- APP A.3.2 Visual Exposure Site 2
- APP A.3.3 Visual Exposure Site 3

### Appendix B: Photographs

- APP B Photo Plate Preferred Site Alt 1
- APP B Photo Plate Sites Alternatives 2 & 3

### Appendix C: Facility illustration(s)

- APP C.1 Mara Trails Camp Central Facility plan
- APP C.2 Mara Trails Camp Typical chalet plan and perspective
- APP C.3 Mara Trails Camp Typical chalet section

### Appendix D: Specialist reports (including terms of reference)

- APP D.1 Terms of Reference – Specialists
- APP D.2 Terms of Reference – SAHRA
- APP D.3 Cultural Heritage Assessment
- APP D.4 Ecological Opinion
- APP D.5 Visual Assessment

### Appendix E: Public Participation Process

### Appendix F: Impact Assessment Tables

- APP F.1 Impact Assessment Tables Site 1
- APP F.2 Impact Assessment Tables Site 2
- APP F.3 Impact Assessment Tables Site 3

### Appendix G: Environmental Management Programme Report



Appendix H: Details of the EAP, expertise, and Declaration of Interest

- APP H.1 Details of the EAP and Declaration of Interest
- APP H.2 Details and Expertise of the EAP

Appendix I: Specialist's declaration of interest

- APP I.1 Details of Specialist & Declaration of Interest FC COETZEE
- APP I.2 Details of Specialist & Declaration of Interest A EYSSELL

Appendix J: Additional Information

- APP J.1 Biozone Package Sewage Treatment Plant Product & Technology Description



## Introduction

---

NuLeaf Environmental and Planning (Pty) Ltd was appointed by The Marakele Park (Pty) Ltd to undertake the required actions and assessments to apply for Environmental Authorization and land-use rights from the National Department of Environmental Affairs (DEA), the decision making authority, for the proposed construction of the Mara Trails Camp.

The activities are being applied for in terms of GN Regulation 546 Item 5(a) of 18 June 2010 issued in terms of sections 24(2) and 24D of the National Environmental Management Act (NEMA, Act 107 of 1998).

## Application Information

---

|  |   |
|--|---|
| NEAS Reference Number                  |   |
| Reference                              | 14/12/16/3/3/1/1095   |
| Title                                  | Proposed Mara Trails Camp, on Jagtersrus 418 KQ, in The Marakele Park (Pty) Ltd Section of the Marakele National Park.  |
| Environmental Assessment Practitioner* | Nuleaf Planning and Environmental (Pty) Ltd <sup>1</sup>  |
| Authors                                | Peter Velcich   |
| Sub Consultants / Specialists          | Mr FP Coetzee, Department of Anthropology & Archaeology<br>University of South Africa: Cultural Heritage Assessment.<br><br>Antoinette Eysell, Dimela Eco Consulting: Ecological Opinion. |
| Client / Proponent                     | The Marakele Park (Pty) Ltd   |
| Report Status                          | Draft   |
| Review Period                          | 21 <sup>st</sup> March 2014 – 21 <sup>st</sup> April 2014   |



## Invitation to Comment on the Draft Basic Assessment Report

This document, the Draft Basic Assessment Report, has been made available for public review from the 19<sup>th</sup> March 2014 to the 18<sup>th</sup> April 2014.

Soft copies have been made available for download off the Internet. Notifications and a link to the download has been emailed to all registered I&AP's and Stakeholders. Digital copies of the report on CD are available upon request.

Hard copies and digital copies of the report have been forwarded to all compliance organisations.

Please submit your comments to:

Peter Velcich  
**Nuleaf Planning and Environmental**

8a Trevor Street  
Murrayfield  
Pretoria 0184

Tel: 082 442 0220  
Fax: 086 571 6292  
Email: peter@nuleafsa.co.za

**Comments may be sent by fax or via email by no later than 21<sup>st</sup> April 2014.**



## Section A: Activity information

---

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

|       |    |
|-------|----|
| YES ✓ | NO |
|-------|----|

“Details of specialist and declaration of interest” for the specialists appointed (Heritage, Visual and Ecological) is attached in Appendix I.

### 1. *Project Description*

#### a) **Description of the project associated with the listed activities applied for:**

The project is located on the farm Jagtersrus 418KQ in the eastern sector of The Marakele Park. The Marakele Park is approximately 20 000 ha and is a Schedule 2B (1)(b) Contract National Park. It includes portions of privately owned land and SANParks owned land adjacent to, and incorporated into, the Marakele National Park (MNP). As such, it is a declared Protected Area in terms of National Environmental Management: Protected Areas Act (Act 57 of 2003) (NAMPA). The Marakele Park (Pty) Ltd is a section of the Marakele National Park and is managed according to a co-management agreement signed in November 2000.

The project entails the development of a discreet trails camp comprising **5 guest chalets** on elevated wooden decks, 2 staff tents, a communal area, kitchen and storeroom, as well as an outdoor dining enclosure (boma).

A proposed short (<250m) unobtrusive 2-spoor all-weather track will provide vehicular access off a nearby gravel track. The camp will be mainly accessed by guests by foot (in and out), so vehicular access will be largely limited to resupply and removal of refuse and linen etc.

The camp will be off-grid, and powered by a combination of solar power and LP gas.

Water will be pumped via an underground pipe to the facility from an existing borehole, 750m from the site, and stored in a flat 5000 liter tank from where it will gravity feed to the units.

Waste water will be treated with a Biozone Package Sewage Treatment Plant. This system utilises Submerged Bio-Contactor (SBC) technology with 4 stages of treatment i.e. Primary Settlement/Anaerobic collection, Biological Treatment, Clarifier and Disinfection. Treated waste water will then be discharged into the natural surroundings.

The construction phase of the project is expected to last 12 to 14 weeks.

The Marakele Park is a ‘Big Five’ eco-tourism destination. Surrounding land use includes the MNP, directly to the south, while the Matla-Mamba Game Ranch lies on the north-western boundary. The Mateke Resort borders the project area to the east, and the

Welgevonden Private Game Reserve, although not a direct neighbour to The Marakele Park, is situated some 5 to 10km to the east. The remainder of the land use in the area is predominantly game ranching, hunting establishments and cattle farming. The town of Thabazimbi is located approximately 30km south-east.

**Please note: At the time of registering this project and preparing the BID, it was anticipated that the guest chalets would be predominantly canvass structures (tents) on timber decks. Subsequently, the design of the guest chalets has evolved, and is now finalized as structures using brick and mortar, canvass and timber. They will be partially raised off ground level by means of timber supports.**

**b) Detailed description of the listed activities associated with the project as applied for:**

| Listed activity as described in GN R.544, 545 and 546 | Description of project activity  |
|---|--|
| <b>GN R. 546 Item 5 (a)</b>                           | <b>Construction of a trails camp that sleeps 10 guests and 3 staff, within the Marakele Contract National Park (a Protected Area identified in terms of NEMPAA).</b> |

**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.

Three alternative sites for the location of the bush camp were considered during the preparation of this Basic Assessment Report. The sites were identified during cursory site visits to the Marakele Park by the EAP and Marakele Park (Pty) Ltd staff members.

The preferred site, Alternative 1, is commonly known as the Jagtersrus site, and is situated high in the Jagtersrus valley, well hidden from adjacent activities and facilities. The site is located in the heart of an area identified for hiking trails by the operators of the Marataba Lodge, and will serve this market. Appendix A.2. provides further detail on this site.

Site Alternative 2, commonly known as the Buffelspoort site, is situated in the eastern side of the Marakele Park on a gentle footslope close to the source of the Mamba River. The site is also located in the heart of an area identified for hiking trails by the operators of the



Marataba Lodge, and would serve this market. Appendix A.2. provides further detail on this site.

Site Alternative 3, commonly known as the Kubu Dam site, is more centrally located in the Jagtersrus valley on the banks of the Matlabas River. The site has been previously disturbed and was used in the past as a picnic / braai area. An old lapa structure has been destroyed by bush fires, but the concrete foundations and platform still remain. The site is located on the periphery of an area identified for hiking trails by the operators of the Marataba Lodge, and would serve this market. Appendix A.2. provides further detail on this site.

**a) Site alternatives**

| <b>Alternative 1 (preferred alternative)</b> |               |               |
|--|---------------|---------------|
| Description                                  | Lat (DDMMSS)  | Long (DDMMSS) |
| <b>Jagtersrus Site</b>                       | 24°20'6.72"S  | 27°39'38.06"E |
| <b>Alternative 2</b>                         |               |               |
| Description                                  | Lat (DDMMSS)  | Long (DDMMSS) |
| <b>Buffelspoort Site</b>                     | 24°18'41.34"S | 27°38'31.86"E |
| <b>Alternative 3</b>                         |               |               |
| Description                                  | Lat (DDMMSS)  | Long (DDMMSS) |
| <b>Kubu Dam Site</b>                         | 24°20'42.10"S | 27°37'49.01"E |

**c) Technology alternatives**

| <b>Alternative 1 (preferred alternative)</b>  |
|---|
| Alternative Energy: The preferred option is to keep the facility off-grid and to power the entire camp using green energy solutions, specifically solar power, augmented by LP Gas. This will be the first solar powered camp in the Marakele Park. |
| <b>Alternative 2</b>  |
| The option of extending the existing Eskom power line from the main lodge, Marataba, 8km away, was considered and deemed impractical and not environmentally defensible.  |

*The preferred option was selected early in the planning process. No further consideration was given to technology alternatives.*

**e) No-go alternative**

|   |
|---|
| The 'No-Go' alternative explores the option where 'nothing is done'. In other words, the status quo remains and the development is shelved. It is this status quo against which the impact of the proposed project is measured. |
| In order to adequately address the No-Go option, it is necessary to review the project need and   |



desirability. The need and desirability essentially elucidates the positive contribution that the development would realise for the broader environment. In this case, the following is offered as core to the need for the project (see also Section A. 10):

It is critical to the development of tourism in The Marakele Park that appropriate amenities are provided. Currently very limited commercial tourism beds are available in the The Marakele Park. A contractual agreement between SANParks and The Marakele Park Pty Ltd, makes provision for the development of 100 commercial beds within the 20 000 ha Marakele Park. To date, only 30 commercial beds are available to the visitors to The Marakele Park, and these are all within the Marataba Lodge, a five star high income facility catering almost exclusively for the guided safari game drive market.

There are currently no overnight facilities available to the mid-market segment specifically catering for hikers and trailists. In response to an identified need for more rustic, wilderness accommodation, the proponent intends developing the trails camp to meet this requirement, and to facilitate the inclusion of guided game walks between the lodge and the trails camp, as well as using the trails camp as a point of departure and arrival for walking trails.

The no-go alternative will understandably negate any potential negative environmental impact associated with the development of a trails camp, but it is submitted that this option will throttle the tourism potential of the MP, which is currently wholly under developed, at 50 beds per 20 000 hectares.

**Paragraphs 3 – 13 are completed for each of the three site alternatives:**

### 3. *Physical Size of the Activity*

#### a) **Physical size of the activity footprint:**

**Alternative:**

Alternative A1<sup>2</sup> (preferred activity alternative)  
 Alternative A2 (if any)  
 Alternative A3 (if any)

**Size of the activity:**

|  |                    |
|--|--------------------|
|  | 500 m <sup>2</sup> |
|  | 500 m <sup>2</sup> |
|  | 500 m <sup>2</sup> |

#### b) **Size of the alternative sites within which the above footprints will occur:**

**Alternative:**

Alternative A1 (preferred activity alternative)  
 Alternative A2 (if any)  
 Alternative A3 (if any)

**Size of the site/servitude:**

|  |                      |
|--|----------------------|
|  | 15000 m <sup>2</sup> |
|  | 15000 m <sup>2</sup> |
|  | 15000 m <sup>2</sup> |

<sup>2</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

#### 4. *Site Access*

Does ready access to the site exist?

|       |      |
|-------|------|
| YES   | NO ✓ |
| <250m |      |

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

Describe the type of access road planned:

2-spoor gravel 4x4 access track, between 20 and 250m in length depending on the alternative.

The position of the access road is included on Appendix A.2 'Detailed Sites Map', as well as an indication of the road in relation to the site.

#### 5. *Locality Map*

An A3 locality map is attached to the back of this document, as Appendix A.1.

The map indicates the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site.

#### 6. *Layout/Route Plan*

A detailed site plan for each alternative is attached as Appendix A.2 to this document.

The site plans indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;

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

## 7. *Sensitivity Map*

The layout plan as indicated above is overlain with a sensitivity map (Appendix A.2.) that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

Note: This sensitivity map is a product of the sensitivity value analysis undertaken by SANParks in the development of the Marakele National Park Management Plan (SANParks. 2008. *Marakele National Park Management Plan*. Unpublished Report.

## 8. *Site Photographs*

Colour photographs from the centre of the site were taken in at least eight of the major compass directions, and are attached under Appendix B to this report.

## 9. *Facility Illustration*

A detailed illustration of the activity is included as Appendix C. The illustrations are to scale and represent a realistic image and representative view of the planned activity.

## 10. *Activity Motivation*

The Need and Desirability of the project is routed in the paucity of tourism accommodation in The Marakele Park.

It is critical to the development of tourism in The Marakele Park that amenities are provided. A contractual agreement between SANParks and The Marakele Park Pty Ltd, makes provision for the development of 100 commercial beds within the 20 000 ha Marakele Park. To date, only 30

commercial beds are available to the visitors to The Marakele Park, and these are all within the Marataba Lodge, a five star high income facility catering almost exclusively for the guided safari game drive market.

There are currently no overnight facilities available to the mid-market segment specifically catering for hikers and trailists. In response to an identified need for more rustic, wilderness accommodation, the proponent intends developing the trails camp to meet this requirement, and to facilitate the inclusion of guided game walks between the lodge and the trails camp, as well as using the trails camp as a point of departure and arrival for walking trails.

|  |          |         |                |
|--|----------|---------|----------------|
| <b>1. Is the activity permitted in terms of the property's existing land use rights?</b>   | YES<br>✓ | NO      | Please explain |
| The properties (Alternative sites 1, 2 and 3) are all part of the declared Marakele National Park, which accommodates the development of tourist camps and infrastructure in terms of the Marakele National Park Land Use Zoning Plan (Marakele National Park Management Plan, 2008, SANParks). The properties all fall within the 'Primitive Zoning' which specifically caters for "...limited access roads and the potential for basic small-scale self-catering accommodation facilities such as a bush camp or small concession lodges ..."                          |          |         |                |
| <b>2. Will the activity be in line with the following?</b>   | YES<br>✓ | NO      | Please explain |
| <b>(a) Provincial Spatial Development Framework (PSDF)</b>   | YES<br>✓ | NO      | Please explain |
| The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg District Municipality Integrated development Plan 2012/13, and the stated objectives of "...promotion of tourism for the area of the district municipality.."   |          |         |                |
| <b>(b) Urban edge / Edge of Built environment for the area</b>   | YES      | NO<br>✓ | Please explain |
| The development is in a Protected Area, where development of tourist infrastructure is governed by the Protected Area Integrated Management Plan, and not the Urban Edge principle.  |          |         |                |
| <b>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</b>  | YES      | NO<br>✓ | Please explain |
| The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg District Municipality Integrated development Plan 2012/13, and the stated objectives of "...promotion of tourism for the area of the district municipality..". This includes the development of tourism activities and facilities, marketing of the area, as well as skills transfer and training in the tourism / hospitality sector, and environmental education. The development of the Marakele Parks tourism base, responds to these objectives. |          |         |                |



|  |          |                |                |
|--|----------|----------------|----------------|
| <b>(d) Approved Structure Plan of the Municipality</b>   | YES      | <b>NO</b><br>✓ | Please explain |
| The development falls within a Protected Area outside the boundaries of municipal area.  |          |                |                |
| <b>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</b>   | YES      | <b>NO</b><br>✓ | Please explain |
| The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg Environmental Management Framework. The MP falls within Environmental Management Zone 1: <i>Protection of the natural vegetation, landscape and rock paintings areas, with limited appropriate tourism.</i>   |          |                |                |
| <b>(f) Any other Plans (e.g. Guide Plan)</b>   | YES<br>✓ | NO             | Please explain |
| <b>The Marakele Park Pty Ltd Integrated Management Plan 2012.</b> This plan was developed for the Marakele Park component of the Marakele National Park, and describes amongst others, the development opportunities for additional lodges, bush camps and trail camps in the Marakele Park. The proposed development of the Mara Trails Camp responds to these identified opportunities.<br><br>This Integrated Management Plan is embedded in the Marakele National Park Management Plan and has been approved by the Joint Management Committee comprised of members of The Marakele Park (Pty) Ltd and SANParks according to the co-management agreement of November 2000. |          |                |                |
| <b>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</b>   | YES      | <b>NO</b><br>✓ | Please explain |
| The project is not subject to specified SDF timeframes.  |          |                |                |
| <b>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</b>  | YES<br>✓ | NO             | Please explain |
| The project is not a societal priority in the national context, but it is a contributor to socio-economic development on a local level, and can be considered a priority on this level.  |          |                |                |

|   |                  |                 |                       |
|---|------------------|-----------------|-----------------------|
| <p><b>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>   | <p>YES<br/>✓</p> | <p>NO</p>       | <p>Please explain</p> |
| <p>No additional service capacity (Municipal or otherwise) will be required. The trails camp will be off-grid, and water will be sourced from a local borehole). Furthermore, the scale of the trails camp is such (5 guest chalets) that required services will be very limited (water, power, waste).</p>   |                  |                 |                       |
| <p><b>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p> | <p>YES</p>       | <p>NO<br/>✓</p> | <p>Please explain</p> |
| <p>The development is not catered for in the infrastructure planning of the municipality</p>  |                  |                 |                       |
| <p><b>7. Is this project part of a national programme to address an issue of national concern or importance?</b></p>  | <p>YES</p>       | <p>NO<br/>✓</p> | <p>Please explain</p> |
| <p>Not applicable.</p>  |                  |                 |                       |
| <p><b>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</b></p>   | <p>YES<br/>✓</p> | <p>NO</p>       | <p>Please explain</p> |
| <p>The location of the sites are within a Protected Area, where conservation and eco-tourism are the primary land uses.</p>   |                  |                 |                       |
| <p><b>9. Is the development the best practicable environmental option for this land/site?</b></p>   | <p>YES<br/>✓</p> | <p>NO</p>       | <p>Please explain</p> |
| <p>The development opens up the potential of the area for hiking trails, walks and other forms of eco-tourism.</p>  |                  |                 |                       |
| <p><b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b></p>   | <p>YES<br/>✓</p> | <p>NO</p>       | <p>Please explain</p> |
| <p>The benefits of developing a trails system, including trails camps, within the Marakele Park are positive and numerous. The activity is low impact and environmentally sustainable, and opens up areas of the Marakele Park that are currently not easily accessible to hikers.</p>  |                  |                 |                       |

|   |                |         |                |
|---|----------------|---------|----------------|
| <b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b>  | YES            | NO<br>✓ | Please explain |
| It is not anticipated that a precedent will be set, however, it is hoped that the development of additional infrastructure similar to the Mara Trails Camp will be developed to in order to expand the trails network on and beyond the Marakele Park, and increase the tourism opportunities in the broader area.  |                |         |                |
| <b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b>  | YES            | NO<br>✓ | Please explain |
| It is not anticipated that any person's rights will be affected at all. The public participation process has not raised this as an issue.   |                |         |                |
| <b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b>   | YES            | NO<br>✓ | Please explain |
| The activities are within a Protected Area, beyond the Urban Edge, and not subject to the restrictions of the Urban Edge.   |                |         |                |
| <b>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPs)?</b>   | YES<br>✓       | NO      | Please explain |
| The project will contribute in a small way to the SPATIAL SIP 11: <b>Agri-logistics and rural infrastructure</b> : 'Improve investment in agricultural and rural infrastructure that supports expansion of production and employment of tourism infrastructure et-al.'  |                |         |                |
| <b>15. What will the benefits be to society in general and to the local communities?</b>  | Please explain |         |                |
| It is anticipated that the further development and expansion of the tourism activities and facilities on the Marakele Park, will realise significant benefits to the local community in the form of job creation (temporary and permanent), skills transfer and training, environmental education, and provide the stimulus for the development of SMME's (tourism curio market for example). |                |         |                |
| <b>16. Any other need and desirability considerations related to the proposed activity?</b>   | Please explain |         |                |
| The development of the trails camp and trails network is intended to augment the activities offered at the nearby Marataba Safari Lodge. The latter caters exclusively to the higher income market, offering game drive safaris. It is in the interest of the Marataba operation to diversify it's product offering to include day walks and guided hiking trails.                            |                |         |                |

|   |                |
|---|----------------|
| <b>17. How does the project fit into the National Development Plan for 2030?</b>  | Please explain |
| <p>The National Development Plan 2030 identifies sectors that need to play a role in alleviating poverty and eliminating inequality by 2030 in South Africa. Tourism and hospitality is one sector that can play a meaningful role in this regard. It is anticipated that the development of trails camps and hiking trails in the Marakele Park, will play a role in local job creation, skills transfer, training and environmental education. Local communities will also gain practical and technical skills during the construction phase of the project which will be used for future similar projects.</p>   |                |
| <b>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</b>   |                |
| <p>The proposed project has been undertaken according to section 24 of the National Environmental Management Act (NEMA) (No 107 of 1998) and in this respect, the following has been considered:</p> <ul style="list-style-type: none"> <li>• An Application for the Environmental Authorisation was lodged with the Department of Environmental Affairs.</li> <li>• A public participation process was facilitated, including comprehensive advertising of the project (press media, site notices, direct communication), and distribution of information, including a Background Information Document, to relevant stakeholders and interested and affected parties.</li> <li>• Specialist input and assessment was effected where required.</li> <li>• Potential impacts on the natural environment, socio-economic environment, cultural historic environment and aesthetic environment have been assessed and associated mitigation measures have been described.</li> <li>• Other objectives of IEM that have been taken into account include the consideration of risk, consequences and alternatives</li> </ul> |                |

**19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.**

This Basic Assessment Process has been structured to ensure the principles as set out in Section 2 of NEMA are taken into account, and the BAR specifically responds to the following principles:

**Environmental resources must serve the public interest:**

The development of a trails camp in the Marakele Park will enable the public to benefit from the sustainable utilization of the resource by providing low impact access to the area, and by creating direct and indirect benefits to the local community.

**Sustainable development**

The development is underpinned by the principles of sustainability, tread lightly, and environmental sensitivity. The design, construction and operation of the facility will take cognisance of ecological, socio-economic, aesthetic and cultural historic opportunities and constraints of the environment.

**Pollution and degradation of the environment**

It is not anticipated that the integrity of the natural environment will be compromised in any way. Any possible impacts related to the development of the facility on the site, will be mitigated, ameliorated and managed throughout the life cycle of the project. Regular environmental audits will ensure that the development meets the requirements of Section 2 of NEMA.

**Environmental management must be integrated**

The proponent has developed an Integrated Environmental Management Plan for the Marakele Park, in response to the provisions of the Protected Areas Act. The development of tourism activities and facilities is considered in detail in this report, and addressed in terms of management goals, objectives, and measurable actions.

**Public participation and stakeholder engagement processes**

A PPP has been actioned for this project and stakeholders and interested and affected parties have been identified, notified and empowered. This includes:

- The placements of adverts in local/regional newspapers;
- The placement of site notices;
- The distribution of a Background Information Document (BID)

**Development must be socially, environmentally and economically sustainable**

The development has been designed and planned to be socially, environmentally and economically sustainable, by:

- Providing for local job opportunities, skills transfer and training.
- Mitigating and ameliorating environmental impact.
- Undertaking due diligence and feasibility assessments in support of the economic sustainability of the development.

## 11. *Applicable Legislation, Policies and/or Guidelines*

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

| <b>Title of legislation, policy or guideline</b>                                | <b>Applicability to the project</b>  | <b>Administering authority</b>               | <b>Date</b> |
|---|--|--|-------------|
| Constitution of Republic of South Africa (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 43 of 1983):                        | Provides for control over the utilization of the natural agricultural resources of the Republic. The proposed project will be required in terms of this legislation to ensure that <ul style="list-style-type: none"> <li>• the soil mantle is protected and conserved,</li> <li>• the natural water sources are protected,</li> <li>• vegetative cover is conserved and weeds and invader plants are removed from the site.</li> </ul>  | National Department of Agriculture           | 1983        |
| 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.<br>The proposed development falls within the Marakele National Park, a Protected Area in terms of this Act, and will therefore be subject to the provisions of this Act. | National Department of Environmental Affairs | 2003        |
| National Environmental Management: Biodiversity Act, 2004 (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).<br>Although not anticipated, rare or protected species may be affected during construction. The Act lists species that are threatened or  | Department of Environmental Affairs          | 2004        |

|  |  |   |      |
|--|--|---|------|
|  | require protection to ensure their survival in the wild, while regulating the activities, which may involve such listed threatened or protected species and activities which may have a potential impact on their long-term survival. The Act has listed flora and fauna species.  |   |      |
| National Spatial Biodiversity Assessment:              | The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels. The proposed development site is located in the <i>Western Sandy Bushveld</i> , which is ranked as <i>Least Threatened, yet Poorly Conserved</i> .   | Department of Environmental Affairs               | 2011 |
| National Forests Act, 1998 (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). Although not anticipated, should any protected tree species require removal or relocation within the project area, a permit will be required.   | Department of Agriculture, Forestry and Fisheries | 1998 |
| National Heritage Resources Act 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. In this regard, the proposed development site will be subject to a heritage survey, and engagement with the South African Heritage Resources Agency (SAHRA). 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 proposed 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 |
| National Environmental Management Waste Act 59 of 2008 | The Waste Act reforms the law regulating waste management in order to protect the environment by providing reasonable  | Department of Environment                         | 2008 |

|  |   |                                     |      |
|--|---|-------------------------------------|------|
|  | measures for the prevention of pollution and ecological degradation.<br>The proposed development will be subject to this Act in terms of the disposal of waste.   | al Affairs                          |      |
| 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. The proposed development will therefore be subject to this Act during the construction and operational phases of the project.                           | National Department of Labour       | 1993 |
| DEA 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 |
| DEAT EIA Guideline Documents, 2006                             | The guidelines describes the EIA process in general, including the public participation process, the assessment of alternatives and the development of environmental management programme reports.  | Department of Environmental Affairs | 2006 |



## 12. Waste, Effluent, Emission and Noise Management

### a) Solid waste management

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

|                    |    |
|--------------------|----|
| YES<br>✓           | NO |
| <10 m <sup>3</sup> |    |

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

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

Construction waste will be driven away from the site to a local borrow pits and erosion dongas that have been earmarked for rehabilitation. Inert material from the construction site will be used to backfill such pits and dongas and covered over with soil, so-doing facilitating the levelling off and ultimate closure of the pits and dongas.

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

Local borrow pits and erosion dongas as described above.

Will the activity produce solid waste during its operational phase?

|                  |    |
|------------------|----|
| YES<br>✓         | NO |
| <5m <sup>3</sup> |    |

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

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

The solid waste will be transported to an existing central collection facility at the Matlabas staff village adjacent to the Marakele Park, where refuse stored for collection by a registered refuse removal company.

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

The solid waste generated on the Marakele Park, is collected by a registered Refuse Removal Company, on contract to the Marakele Park, and disposed of at a registered landfill site in Thabazimbi.

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

Not applicable.

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

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

|     |         |
|-----|---------|
| YES | NO<br>✓ |
|-----|---------|

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

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

|     |         |
|-----|---------|
| YES | NO<br>✓ |
|-----|---------|

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

## b) Liquid effluent

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

|     |         |
|-----|---------|
| YES | NO<br>✓ |
|-----|---------|

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

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

|                |    |
|----------------|----|
| m <sup>3</sup> |    |
| YES<br>✓       | 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.*

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

|     |         |
|-----|---------|
| YES | NO<br>✓ |
|-----|---------|

If YES, provide the particulars of the facility:

|                        |     |              |     |
|------------------------|-----|--------------|-----|
| <b>Facility name:</b>  | n/a |              |     |
| <b>Contact person:</b> | n/a |              |     |
| <b>Postal address:</b> | n/a |              |     |
| <b>Postal code:</b>    | n/a |              |     |
| <b>Telephone:</b>      | n/a | <b>Cell:</b> | n/a |
| <b>E-mail:</b>         | n/a | <b>Fax:</b>  | n/a |

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

The proposed Trails Camp will be produce very limited waste water due to the size of the camp. Furthermore, there will be no manicured landscapes requiring irrigation. For these reasons, the harvesting of rainwater or recycling of waste water has not been considered as viable propositions.

**c) Emissions into the atmosphere**

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

|     |      |
|-----|------|
| YES | NO ✓ |
| YES | NO   |

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

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

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

|  |
|--|
|  |
|--|

**d) Waste permit**

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

|     |      |
|-----|------|
| YES | NO ✓ |
|-----|------|

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

**e) Generation of noise**

Will the activity generate noise?

|     |      |
|-----|------|
| YES | NO ✓ |
| YES | NO   |

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

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:

|  |
|--|
|  |
|--|

**13. Water Use**

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

|           |             |               |                              |       |                                 |
|-----------|-------------|---------------|------------------------------|-------|---------------------------------|
| Municipal | Water board | Groundwater ✓ | River, stream, dam or lake ✓ | Other | The activity will not use water |
|-----------|-------------|---------------|------------------------------|-------|---------------------------------|

Site Alternative 1 will source potable water from a nearby borehole, located 750 m to the west. Site Alternatives 2 and 3 will source water directly from nearby streams and dams.

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:

<80 000 litres

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

YES



NO

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

**The process of registering the use of the borehole with DWA is underway. Proof hereof will be furnished in the Final Basic Assessment Report.**

#### 14. *Energy Efficiency*

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

Various technologies will be employed to minimise the power requirements of the camp. These include:

- Low wattage LED light bulbs, and rechargeable LED torches.
- Green building architectural design technologies for climate control.
- Solar powered pumps where required (borehole, pressure pumps, effluent pumps).

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

The trails camp will be off-grid. Power will be supplied via a solar power system, and augmented with LP gas for cooking, refrigeration and back-up lighting.

## Section B: Site/Area/Property Description

### Important notes:

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

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

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

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

|          |    |
|----------|----|
| YES<br>✓ | NO |
|----------|----|

A "Details of specialist and declaration of interest" for each specialist appointed is attached to Appendix I. All specialist reports are contained in Appendix D.

**Property description/physical address:**

|                               |   |
|-------------------------------|---|
| <b>Province</b>               | Limpopo Province  |
| <b>District Municipality</b>  | Waterberg District Municipality   |
| <b>Local Municipality</b>     | Lephalale Local Municipality  |
| <b>Ward Number</b>            | 3   |
| <b>Farm name &amp; number</b> | Alt. Site 1: Jagtersrus 418KQ<br>Alt. Site 2: Jagtersrus 418KQ<br>Alt. Site 3: Waterval 267KQ |
| <b>Portion number</b>         | n/a   |
| <b>SG Code</b>                | Alt. Site 1: TOKQ00000000041800000<br>Alt. Site 2: TOKQ00000000041800000                      |

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

|   |
|---|
| Conservation<br>(Formally Proclaimed Protected Area – Marakele National Park) |
|---|

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

|     |         |
|-----|---------|
| YES | NO<br>✓ |
|-----|---------|

## 1. Gradient of the Site

Indicate the general gradient of the site.

### Alternative S1:

|      |             |             |             |              |                  |                  |
|------|-------------|-------------|-------------|--------------|------------------|------------------|
| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5<br>✓ | Steeper than 1:5 |
|------|-------------|-------------|-------------|--------------|------------------|------------------|

### Alternative S2 (if any):

|      |             |             |             |                   |             |                  |
|------|-------------|-------------|-------------|-------------------|-------------|------------------|
| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5<br>✓ | 1:7,5 – 1:5 | Steeper than 1:5 |
|------|-------------|-------------|-------------|-------------------|-------------|------------------|

### Alternative S3 (if any):

|      |                  |             |             |              |             |                  |
|------|------------------|-------------|-------------|--------------|-------------|------------------|
| Flat | 1:50 – 1:20<br>✓ | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |
|------|------------------|-------------|-------------|--------------|-------------|------------------|

## 2. Location in the Landscape

The landform that best describes the site:

- Site Alt. 1: Closed valley mid to footslope
- Site Alt. 2: Open valley, footslope
- Site Alt. 3: Closed valley, alongside perennial river

## 3. Groundwater, Soil and Geological stability of the site

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

|   | Alternative S1: |         | Alternative S2 (if any): |         | Alternative S3 (if any): |         |
|---|-----------------|---------|--------------------------|---------|--------------------------|---------|
| Shallow water table (less than 1.5m deep)             | YES             | NO<br>✓ | YES                      | NO<br>✓ | YES                      | NO<br>✓ |
| Dolomite, sinkhole or doline areas                    | YES             | NO<br>✓ | YES                      | NO<br>✓ | YES                      | NO<br>✓ |
| Seasonally wet soils (often close to water bodies)    | YES             | NO<br>✓ | YES                      | NO<br>✓ | YES<br>✓                 | NO      |
| Unstable rocky slopes or steep slopes with loose soil | YES             | NO<br>✓ | YES                      | NO<br>✓ | YES                      | NO<br>✓ |
| Dispersive soils (soils that dissolve in water)       | YES             | NO<br>✓ | YES                      | NO<br>✓ | YES                      | NO<br>✓ |

Soils with high clay content (clay fraction more than 40%)

|     |         |
|-----|---------|
| YES | NO<br>✓ |
| YES | NO<br>✓ |
| YES | NO<br>✓ |

|     |         |
|-----|---------|
| YES | NO<br>✓ |
| YES | NO<br>✓ |
| YES | NO<br>✓ |

|     |         |
|-----|---------|
| YES | NO<br>✓ |
| YES | NO<br>✓ |
| YES | NO<br>✓ |

Any other unstable soil or geological feature

An area sensitive to erosion

#### 4. Groundcover

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

- Alt. Site 1: Natural veld in good condition, free of invasive species.
- Alt. Site 2: Natural veld in good condition, free of invasive species.
- Alt. Site 3: Natural veld in good condition / remnants of derelict building (lapa structure), free of invasive species.

#### 5. Surface Water

Presence of surface water on and or adjacent to the site and alternative sites:

|                              | Alt. 1 |         | Alt. 2   |         | Alt. 3   |         |
|------------------------------|--------|---------|----------|---------|----------|---------|
| Perennial River              | YES    | NO<br>✓ | YES      | NO      | YES<br>✓ | NO      |
| Non-Perennial River          | YES    | NO<br>✓ | YES<br>✓ | NO      | YES      | NO      |
| Permanent Wetland            | YES    | NO<br>✓ | YES      | NO<br>✓ | YES      | NO<br>✓ |
| Seasonal Wetland             | YES    | NO<br>✓ | YES<br>✓ | NO      | YES      | NO<br>✓ |
| Artificial Wetland           | YES    | NO<br>✓ | YES<br>✓ | NO      | YES      | NO<br>✓ |
| Estuarine / Lagoonal wetland | YES    | NO<br>✓ | YES      | NO<br>✓ | YES      | NO<br>✓ |

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

**Site Alternative 2:** This site is located in close proximity (100 m) to a non-perennial stream forming the upper reaches of the Mamba river. The river has been artificially impounded (earth-walled farm dams) in two places close to the proposed development site, creating a wetland in the area immediately surrounding these dam.

**Site Alternative 3:** This site is positioned at the site of an old derelict Lapa / picnic area, on the banks of the Matlabas perennial river.

## 6. Land Use Character of Surrounding Area

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

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

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

n/a



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

n/a

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

n/a

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

|   |          |         |
|---|----------|---------|
| Critical Biodiversity Area (as per provincial conservation plan)<br><i>The Limpopo Province is in the process of developing a Provincial Conservation Plan.</i><br>The Western Sandy Bushveld and Waterberg Mountain Bushveld are classified as Least Threatened (Mucina & Rutherford, 2006) and are not listed as threatened ecosystems. | YES      | NO<br>✓ |
| Core area of a protected area?<br>The site is situated within the Marakele National Park, a Protected Area in terms of the National Environmental Management: Protected Areas Act 57 of 2003.   | YES<br>✓ | NO      |
| Buffer area of a protected area?  | YES      | NO<br>✓ |
| Planned expansion area of an existing protected area?   | YES      | NO<br>✓ |
| Existing offset area associated with a previous Environmental Authorisation?  | YES      | NO<br>✓ |
| Buffer area of the SKA?   | YES      | NO<br>✓ |

Appendix A.1 Orientation Map, indicates the position of the alternative sites relevant to the Marakele National Park, and Marakele Park,- both proclaimed Protected Areas.

## 7. Cultural / Historical Features

|   |           |         |
|---|-----------|---------|
| Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain: | YES       | NO<br>✓ |
|   | Uncertain |         |
| <div style="border: 1px solid black; height: 20px; width: 100%;"></div>   |           |         |

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

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

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

## 8. Socio-Economic Character

### a) Local Municipality

Details on the socio-economic character of the Lephalale Local Municipality (LMM) in which the proposed alternative sites are situated:

Level of unemployment:

According to the Census 2011, 42% of the population are receiving government grants. Approximately 12 234 households depend on free basic services. Almost 67% of the population is of working age (between 15 and 59 years old). Unemployment amongst the youth is currently at 27%. Overall, unemployment in LMM is at 22% (below the provincial average), due to the local developments relating to the new Eskom (Medupi) power station and the expansion of coal production.

The high rate of unemployment implies that opportunities for the establishment of small industries or businesses which are labour intensive should be pursued in order to make use of the potential workforce.

It is an Operation Objective of the LLM to reduce unemployment by 5% between 2013 and 2015.

Economic profile of local municipality:

Lephalale has been identified by Limpopo Employment Growth and Development Plan as a petrochemical cluster and has attained the status of national development node. The Waterberg coal fields which boast more than 40% of the total coal reserve of South Africa are located in Lephalale. The Municipality is on the verge of huge economic development related to mining and energy generation due to the recent development of a new power station and expansion of mining activities. The construction of the 40 000MW power station known as Medupi next to Matimba Power Station is at an advanced stage. Investigation by Sasol for the exploration of a coal to liquid plant has reached an advanced stage.

The tourism industry is important to the economy of the area and will continue to be given attention in this regard.

Agriculture, especially red meat production, is a potential economic activity which is likely to grow within the municipal area.

Level of education:

Provincially, 33.4% of those in the Limpopo Province aged 20 years and older have no formal education, and 67.6% of those with no formal education are women. Within the Waterberg District Municipality, the percentage of learners who passed the matric examination in 2010 was 48%, well below the national and provincial averages. The Waterberg District Municipality also fairs very poorly in terms of Literacy and Numeracy when compared against the provincial and national averages.

**b) Socio-economic value of the activity**

|  |                |         |
|--|----------------|---------|
| What is the expected capital value of the activity on completion?  | R 2 000,000-00 |         |
| What is the expected yearly income that will be generated by or as a result of the activity?                         | R 1 750,000-00 |         |
| Will the activity contribute to service infrastructure?  | YES            | NO<br>✓ |
| Is the activity a public amenity?  | YES            | NO<br>✓ |
| How many new employment opportunities will be created in the development and construction phase of the activity/ies? | 15             |         |
| What is the expected value of the employment opportunities during the development and construction phase?            | R 800,000-00   |         |
| What percentage of this will accrue to previously disadvantaged individuals?   | 62 %           |         |

|   |                |
|---|----------------|
| How many permanent new employment opportunities will be created during the operational phase of the activity? | 5              |
| What is the expected current value of the employment opportunities during the first 10 years?                 | R 2 400,000-00 |
| What percentage of this will accrue to previously disadvantaged individuals?                                  | 75 %           |

## 9. Biodiversity

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

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

**Note: The Limpopo Province is in the process of developing a Provincial Conservation Plan, and Systematic Biodiversity Planning Categories. The status of the site in terms of CBA or ESA is therefore unknown at present. What is known, is that the broader area is classified in the Environmental Potential Atlas (ENPAT) as a 'special fauna habitat' for leopard and a key vegetation community (Waterberg) for the flora. It is also classified by SANBI as an Important Bird Area, and the Western Sandy Bushveld is ranked as Least Threatened by SANBI.**

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

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

| Habitat Condition | Percentage of habitat condition class (adding | Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of |
|-------------------|---|---|
|                   |   |   |

|  | up to 100%) | quarries, grazing, harvesting regimes etc.).  |
|--|-------------|---|
| Natural  | 100 %       | The proposed site is shows no sign of major anthropogenic disturbance. The vegetation is thus likely to be in a primary state.<br>The grass cover is generally good, with signs of relatively frequent grazing by wildlife. |
| Near Natural<br>(includes areas with low to moderate level of alien invasive plants) | 0 %         | n/a   |
| Degraded<br>(includes areas heavily invaded by alien plants)                         | 0 %         | n/a   |
| Transformed<br>(includes cultivation, dams, urban, plantation, roads, etc)           | 0 %         | n/a   |

c) **Complete the table to indicate:**

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

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

**d) Description of the vegetation type present on site, including important biodiversity features/information identified on site (e.g. threatened species and special habitats).**

The description of the veld type and vegetation for Site 1 is extracted from the specialist report: Proposed Tented Camp, Marakele National Park: Ecological Opinion. Dimela Eco Consulting. January 2014.

The study area is situated within the Savanna Biome of South Africa. The savanna includes wooded, shrubby hill slopes and grassy plains with scattered trees or bush-clumps. Diversity in savanna is provided by the variation in soil-type and topography; koppies, river lines and anthills (termitaria) provide localised changes in soil moisture and nutrients which create different habitats for plants and animals. The Savanna Biome comprises different regional vegetation types of which the Western Sandy Bushveld and Waterberg Mountain Bushveld occurs at the site (Mucina & Rutherford, 2006) (Figure 1). The site is mainly situated within the Western Sandy Bushveld that comprises tall open woodland to low woodland that include broad leaved and microphyllous tree species on undulating plains. Dominant species on flat areas include *Acacia erubescens*, *Combretum apiculatum* on shallow, gravelly soils and *Terminalia sericea* on deep soils (Mucina & Rutherford, 2006). Directly east of the site, the Waterberg Mountain Bushveld occurs on rugged mountains grading from *Faurea saligna* – *Protea caffra* bushveld on higher slopes through to broad-leaved deciduous bushveld (dominated by *Diplorhynchus condylocarpon*, the Horn-pod tree or Horingpeultjieboom) to *Burkea africana*-*Terminalia sericea* savanna in the lower lying valleys and deeper sands.

The Western Sandy Bushveld and Waterberg Mountain Bushveld are not currently threatened vegetation units (Mucina & Rutherford, 2006) or listed ecosystems (Government Gazette 34809, Government Notice 1002, 9 December 2011)).

The vegetation on site was found to comprise bushveld vegetation on a rocky slope as well as some species that typically grow on deeper sandy soils. The vegetation included elements of the Western Sandy Bushveld and Waterberg Mountain Bushveld and is likely an ecotone between these two broad vegetation types.

The tree layer was dominated by *Combretum apiculatum* (Red Bushwillow), *Pseudolachnostylis maprouneifolia* (Kudu-berry), *Terminalia brachystemma* (Green Cluster-leaf), *Faurea saligna* (Boekenhout), *Heteropyxis natalensis* (Lavender Tree), *Burkea africana* (Wild Seringa) and *Lannea discolor* (Dikbas). Shrubs and tall trees included *Diplorhynchus condylocarpon* (Horn-pod Tree), *Grewia flava* (Velvet Raisin) and *G. monticola* (Silver Raisin).

Interesting climbers include *Trochomeria macrocarpa* subsp. *Macrocarpa* (Bobbejaankomkommer), *Dalechampia capensis* (Wild Hop / Inzula (z)) and *Gloriosa rigidifolia*.

Towards the western boundary of the site, a non-perennial drainage line supported thicker vegetation and species such as *Croton gratissimus* (Lavender Fever Berry), *Pouzolzia mixta* (Soap Nettle), *Searsia zeyheri*, *Buxus macowanii* (Cape Box), *Acacia nigrescens* and *Pelthophorum africanum* (Weeping Wattle). The epiphytic orchid, *Ansellia africana* (Leopard orchid) grew in a tree close to the drainage line.

The grass cover is generally good, with signs of relatively frequent grazing by wildlife. The condition of the veld is moderate. Grasses of importance include *Heteropogon contortus* (Spear Grass), *Panicum maximum* (Guinea Grass), *Setaria* species and *Andropogon* species, among others. *Hyperthelia dissoluta* (Yellow Thatching Grass) occurs lower down on the flats.

Nine plants of conservation concern have a likelihood of occurring on the study site. Only one of these species, the orchid *Ansellia africana*, was confirmed to occur, while suitable habitat for *Crassula cymbiformis* (Critically Rare) are present. Although these plants are not yet threatened, their numbers are declining.

## Section C: Public Participation

---

### 1. *Advertisement and Notice*

|                             |                               |                  |
|-----------------------------|-------------------------------|------------------|
| <b>Publication name</b>     | Die Kwevoel                   |                  |
| <b>Date published</b>       | 6 <sup>th</sup> December 2013 |                  |
| <b>Site notice position</b> | <b>Latitude</b>               | <b>Longitude</b> |
|                             | 24°20'42.64"S                 | 27°29'41.73"E    |
|                             | 24°18'44.10"S                 | 27°40'0.66"E     |
| <b>Date placed</b>          | 04/12/2013                    |                  |

Site notices were placed at the Marataba Lodge entrance gate to The Marakele Park, and at the Buffelspoort gate, close to the site.

Additional notices were placed at the following locations:

- SANParks Reception Offices, Marakele National Park
- Thabazimbi Post Office

Proof of the placement of the relevant advertisements and notices is included in Appendix E1.

### 2. *Determination of Appropriate Measures*

Measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543:

- Advertisements
  - An notice advertising the process was placed in the local newspaper, Die Kwevoel, on the 6<sup>th</sup> December 2013.
- Notices
  - Site notices
    - Site notices were placed a two gates along the periphery of The Marakele Park (Marataba Gate and Buffelspoort Gate).
  - Posters
    - Posters were placed at the SANParks Reception Offices, Marakele National Park, and at the Thabazimbi Post Office.
- Direct correspondence (via telephone, email or registered mail)
  - All local adjacent landowners were contacted and advised via email or registered post of the process. Background Information Documents were submitted to all adjacent landowners, regardless of whether they registered or not.

See Appendix E.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

| Title, Name and Surname        | Adjacent Landowners: Farm / Resort / Reserve | Contact details (tel number or e-mail address)                                     |
|--------------------------------|--|--|
| Maureen Erasmus                | Buffelspoort                                 | Box 37 Wapadrand 0050  |
| John-Hendri Keyser             | Duikerspan,                                  | <a href="mailto:greatland@lantic.net">greatland@lantic.net</a>                     |
| Dana Smit                      | Blaauwpan                                    | <a href="mailto:africa4u@lantic.net">africa4u@lantic.net</a>                       |
| Hannes du Preez                | Groenvley (Matla Mamba)                      | <a href="mailto:info@matlamamba.co.za">info@matlamamba.co.za</a>                   |
| Andre Uys                      | Hoopdal                                      | <a href="mailto:parkmanager@marakelepark.co.za">parkmanager@marakelepark.co.za</a> |
| Andre Uys                      | Diamant 228, (Mamba),                        | <a href="mailto:parkmanager@marakelepark.co.za">parkmanager@marakelepark.co.za</a> |
| Hannes du Preez/Ralph Boettger | Tweeloopfontein (Mateke),                    | <a href="mailto:ralphbj@telkomsa.net">ralphbj@telkomsa.net</a>                     |
| Kobus Faber                    | Vygeboomfontein, Neels Faber                 | <a href="mailto:neels@fabervervoer.co.za">neels@fabervervoer.co.za</a>             |
| Johan Taljaard,                | SANParks: Marakele National Park             | <a href="mailto:Johan.Taljaard@sanparks.org">Johan.Taljaard@sanparks.org</a>       |

Proof that the key stakeholder received written notification of the proposed activities is included as Appendix E2.

### 3. *Issues raised by interested and affected parties*

| Summary of main issues raised by I&APs | Summary of response from EAP |
|--|------------------------------|
|  |                              |
|  |                              |

***No issues were raised prior to submission of the Draft BAR. Any issues raised subsequent, will be included in the Final BAR.***

### 4. *Comments and Response Report*

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

***No comments were received prior to submission of the Draft BAR. Any comments submitted subsequent, will be included in the Final BAR.***



## 5. Authority Participation

Authorities and organs of state identified as key stakeholders:

| Authority/Organ of State  | Contact person (     | Tel No | Fax No | e-mail   | Postal address                   |
|---|----------------------|--------|--------|--|----------------------------------|
| Limpopo Department of Economic Development, Environment and Tourism, Lephalale District | Ms Thuniko Malungani |        |        | <a href="mailto:malunganitp@ledet.gov.za">malunganitp@ledet.gov.za</a>   | Private Bag x9484 Polokwane 0700 |
| Lephalale Local Municipality  | Mr Edward Munyai     |        |        | <a href="mailto:Edward.munyai@lephalale.gov.za">Edward.munyai@lephalale.gov.za</a>   | Private Bag x136 Lephalale 0555  |
| DEA: Waste  | Sindiswa Duma        |        |        | <a href="mailto:spduma@environment.gov.za">spduma@environment.gov.za</a>   |                                  |
| DWA: Water Quality  | Mbali Dlamini        |        |        | <a href="mailto:dlaminim@dwa.gov.za">dlaminim@dwa.gov.za</a>   |                                  |
| Limpopo Province, Director: Water Regulation and Use                                    | Ms MM Komape         |        |        | <a href="mailto:KomapeM@dwa.gov.za">KomapeM@dwa.gov.za</a>   |                                  |
| DEA: Air Quality  | Lerato Moja          |        |        | <a href="mailto:Lmoja@environment.gov.za">Lmoja@environment.gov.za</a>   |                                  |
| Department of Health  | Selby Mokoena        |        |        | <a href="mailto:selby@vodamail.co.za">selby@vodamail.co.za</a> ,<br><a href="mailto:kwenasmo@gmail.com">kwenasmo@gmail.com</a> |                                  |
| SAHRA   | Phillip Hine         |        |        | <a href="mailto:phine@sahra.org.za">phine@sahra.org.za</a>   |                                  |
| SAHRA   | Jenna Lavin          |        |        | <a href="mailto:jlavin@sahra.org.za">jlavin@sahra.org.za</a>   |                                  |
| WESSA   | WESSA                |        |        | <a href="mailto:info@wessanorth.co.za">info@wessanorth.co.za</a>   |                                  |
|   | REGISTERED           |        |        |  |                                  |

Proof that the Authorities and Organs of State received written notification of the proposed activities is included as appendix E4.

## 6. Consultation with other Stakeholders

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

## Section D: Impact Assessment

---

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. *Impacts that may result from the planning and design, construction, operational, decommissioning and closure phases as well as proposed management of identified impacts and proposed mitigation measures*

The tables overleaf provide a summary of direct, indirect and cumulative impacts and anticipated significance of such impacts, in terms of the construction phase and operational phase of the project. This includes all impacts relating to the choice of site alternatives. This impact assessment is applied to all three identified site alternatives as identified in Section A(2) of this report.

Note that with a project of this small scale, no planning and design phase impacts are anticipated, therefore these are not addressed. Similarly, no decommissioning and closure phase is anticipated.

Complete Impact Assessment Tables for the three site alternatives (in terms of Regulation 22(2)(i) of GN R.543) are included as Appendix F.1, F.1 and F.3.

| Activity  | Impact summary  | Significance                 | Proposed mitigation          |
|---|---|------------------------------|------------------------------|
| <b>SITE Alternative 1 (preferred alternative)</b>   |   |                              |                              |
| Construct-<br>ion<br>Phase  | <b>Direct impacts:</b>  |                              |                              |
|   | Depletion of ground water resources due to over use and waste during construction.  | Negligible                   | See Appendix F.1. Section 2. |
|   | Alteration of water quality – increasing the amounts of nutrients   | Low                          | See Appendix F.1. Section 2. |
|   | Alteration of water quality by toxic contaminants including toxic metal ions.   | Low                          | See Appendix F.1. Section 2. |
|   | Disturbance to hydrological function (quality and fluctuation properties) of the drainage lines   | Low                          | See Appendix F.1. Section 2. |
|   | Changes in the amount of sediment entering the water resource and the associated change in turbidity  | Low                          | See Appendix F.1. Section 2. |
|   | Changing the physical structure within a water resource (habitat)   | Low                          | See Appendix F.1. Section 2. |
|   | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage   | Low                          | See Appendix F.1. Section 2. |
|   | Soil pollution due to toxic contaminants  | Low                          | See Appendix F.1. Section 2. |
|   | Soil pollution due to un-managed runoff of grey water, cement slurry and wash water, litter and other inert construction waste.   | Low                          | See Appendix F.1. Section 2. |
|   | Soil erosion due to the removal of stabilising vegetation during construction   | Low                          | See Appendix F.1. Section 2. |
|   | Air pollution by emissions from construction vehicles and equipment   | Low                          | See Appendix F.1. Section 2. |
|   | Dust liberated by general construction activities and movement of construction vehicles to, from and over the site.   | Low                          | See Appendix F.1. Section 2. |
|   | Smoke from open fires used by site staff for heating and cooking as well as from uncontrolled fires   | Low                          | See Appendix F.1. Section 2. |
|   | <i>Removal of exotic and declared invader species (positive impact).</i>  | Medium                       | See Appendix F.1. Section 2. |
|   | Destruction of Western Sandy Bushveld vegetation during the construction of the bush camp as a result of the activities of workers, heavy machinery, haulers and other construction vehicles and equipment. | Low                          | See Appendix F.1. Section 2. |
|   | Destruction or damage to protected plant species.   |                              | See Appendix F.1. Section 2. |
|   | Increase in exotic vegetation as alien plant species spread to disturbed soils  | Low                          | See Appendix F.1. Section 2. |
|   | Disturbance to non-perennial drainage lines and loss of stabilising vegetation due to construction activities undertaken nearby, and crossing of the drainage lines with vehicles and equipment.            | Low                          | See Appendix F.1. Section 2. |
|   | Soil compaction as a result of construction vehicles and traffic.   | Medium                       | See Appendix F.1. Section 2. |
| Bush Encroachment.  | Low   | See Appendix F.1. Section 2. |                              |
| Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat  | Medium  | See Appendix F.1. Section 2. |                              |
| Faunal disturbance due to the presence of construction personnel on site, and noise due to construction | Low   | See Appendix F.1. Section 2. |                              |

| Activity | Impact summary  | Significance | Proposed mitigation          |
|----------|---|--------------|------------------------------|
|          | activities  |              |                              |
|          | Persecution and hunting of fauna by construction personnel on site  | Low          | See Appendix F.1. Section 2. |
|          | Loss of potentially arable land due to construction activities  | Low          | See Appendix F.1. Section 2. |
|          | Damage to and / or destruction of heritage resources  | Negligible   | See Appendix F.1. Section 2. |
|          | Damage to and / or destruction of archaeological or historical artefacts unearthed during construction  | Low          | See Appendix F.1. Section 2. |
|          | Potential visual impact of construction on visual receptors in close proximity to the proposed bush camp  | Low          | See Appendix F.1. Section 2. |
|          | <i>Stimulation of the local economy, especially the local service delivery industry, (, transport and security, etc.). (positive impact)</i>  | Medium       | See Appendix F.1. Section 2. |
|          | <i>Short term employment and business opportunities and the opportunity for skills development and on-site training. (positive impact)</i>  | Medium       | See Appendix F.1. Section 2. |
|          | An increase in construction workers and associated increase in social problems for the community  | Low          | See Appendix F.1. Section 2. |
|          | Potential impacts on family structures, social networks and community services associated with the influx of job seekers  | Low          | See Appendix F.1. Section 2. |
|          | Potential loss of livestock, poaching and damage to farm infrastructure associated with the presence of construction workers on site.   | Low          | See Appendix F.1. Section 2. |
|          | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires   | Low          | See Appendix F.1. Section 2. |
|          | Impact of construction vehicles and the resultant noise, dust, and safety impacts for other road users and the residents.   | Low          | See Appendix F.1. Section 2. |
|          | <b>Indirect impacts:</b>  |              |                              |
|          | None  |              |                              |
|          | <b>Cumulative impacts:</b>  |              |                              |
|          | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.  | Low          | See Appendix F.1. Section 2. |
|          | Cumulative loss in the floral species richness of the area which will subsequently lead to a reduction in the overall extent of the vegetation  | Negligible   | See Appendix F.1. Section 2. |
|          | Cumulative loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat.  | Negligible   | See Appendix F.1. Section 2. |
|          | Overall loss of farmland could affect the livelihoods of the affected farmers, their families, and the workers on the farms and their families  | Negligible   | See Appendix F.1. Section 2. |
|          | <i>Opportunity to up-grade and improve skills levels in the area. However, due to relatively small number of local employment opportunities this benefit is likely to be limited. (positive impact)</i> | Medium       | See Appendix F.1. Section 2. |
|          | If damage to roads is not repaired then this will impact on other road users and result in higher maintenance   | Low          | See Appendix F.1. Section 2. |

| Activity   | Impact summary   | Significance                 | Proposed mitigation          |
|--|--|------------------------------|------------------------------|
|  | costs for vehicles of local farmers and other road users. The costs will be borne by road users who were not responsible for the damage.   |                              |                              |
| Operational Phase  | <b>Direct impacts:</b>   |                              |                              |
|  | Depletion of ground water resources due to over use and waste during operation   | Low                          | See Appendix F.1. Section 3. |
|  | Alteration of water quality – increasing the amounts of nutrients.   | Low                          | See Appendix F.1. Section 3. |
|  | Alteration of water quality – toxic contaminants   | Low                          | See Appendix F.1. Section 3. |
|  | Changing the amount of sediment entering water resource and associated change in turbidity.  | Low                          | See Appendix F.1. Section 3. |
|  | Alteration of water quality – toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.1. Section 3. |
|  | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage.   | Low                          | See Appendix F.1. Section 3. |
|  | Soil pollution due to toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.1. Section 3. |
|  | Erosion resulting from the concentration of rainwater and / or wash water rushing off hard surfaces.   | Low                          | See Appendix F.1. Section 3. |
|  | Air pollution by emission from private vehicles travelling to and from the site.   | Low                          | See Appendix F.1. Section 3. |
|  | The spread of alien invasive plants in poorly rehabilitated areas  | Low                          | See Appendix F.1. Section 3. |
|  | Bush Encroachment.   | Low                          | See Appendix F.1. Section 3. |
|  | Destruction or damage to protected plant species.  | Low                          | See Appendix F.1. Section 3. |
|  | Faunal disturbance due to operational activities and people present on site.   | Low                          | See Appendix F.1. Section 3. |
|  | Mortality of fauna due to exposure to collisions with infrastructure and cables  | Negligible                   | See Appendix F.1. Section 3. |
|  | During the operational phase, contaminates such as pesticides and oils may be used and / or spilt on site. The presence of such contaminants may result in the death of fauna species. | Negligible                   | See Appendix F.1. Section 3. |
|  | Potential visual impact on users of game viewing tracks in close proximity to the proposed sites   | Medium                       | See Appendix F.1. Section 3. |
|  | Potential visual impact on residents of homesteads / lodges or settlements in close proximity to the proposed units  | Negligible                   | See Appendix F.1. Section 3. |
|  | Potential visual impact on sensitive visual receptors within the region  | Negligible                   | See Appendix F.1. Section 3. |
|  | Potential visual impact of lighting on visual receptors in close proximity of the proposed units   | Low                          | See Appendix F.1. Section 3. |
|  | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires.                               | Low                          | See Appendix F.1. Section 3. |
| Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires. | Low  | See Appendix F.1. Section 3. |                              |
| <b>Indirect impacts:</b>   |  |                              |                              |

| Activity                          | Impact summary  | Significance | Proposed mitigation          |
|-----------------------------------|---|--------------|------------------------------|
|                                   | Potential visual impact of the proposed camp on visual character of the landscape and sense of place of the region.               | Negligible   | See Appendix F.1. Section 3. |
|                                   | Potential visual impact of the proposed camp plans on tourist facilities and tourist access routes within the region.             | Negligible   | See Appendix F.1. Section 3. |
| <b><i>Cumulative impacts:</i></b> |   |              |                              |
|                                   | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.                          | Low          | See Appendix F.1. Section 3. |
|                                   | <i>Promotion of social and economic development and improvement in the overall well-being of the community. (positive impact)</i> | Medium       | See Appendix F.1. Section 3. |

| Activity  | Impact summary  | Significance                 | Proposed mitigation          |
|---|---|------------------------------|------------------------------|
| <b>SITE Alternative 2</b>   |   |                              |                              |
| Construct-<br>ion<br>Phase  | <b>Direct impacts:</b>  |                              |                              |
|   | Depletion of ground water resources due to over use and waste during construction.  | Negligible                   | See Appendix F.2. Section 2. |
|   | Alteration of water quality – increasing the amounts of nutrients   | Low                          | See Appendix F.2. Section 2. |
|   | Alteration of water quality by toxic contaminants including toxic metal ions.   | Low                          | See Appendix F.2. Section 2. |
|   | Disturbance to hydrological function (quality and fluctuation properties) of the drainage lines   | Low                          | See Appendix F.2. Section 2. |
|   | Changes in the amount of sediment entering the water resource and the associated change in turbidity  | Low                          | See Appendix F.2. Section 2. |
|   | Changing the physical structure within a water resource (habitat)   | Low                          | See Appendix F.2. Section 2. |
|   | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage   | Low                          | See Appendix F.2. Section 2. |
|   | Soil pollution due to toxic contaminants  | Low                          | See Appendix F.2. Section 2. |
|   | Soil pollution due to un-managed runoff of grey water, cement slurry and wash water, litter and other inert construction waste.   | Low                          | See Appendix F.2. Section 2. |
|   | Soil erosion due to the removal of stabilising vegetation during construction   | Low                          | See Appendix F.2. Section 2. |
|   | Air pollution by emissions from construction vehicles and equipment   | Low                          | See Appendix F.2. Section 2. |
|   | Dust liberated by general construction activities and movement of construction vehicles to, from and over the site.   | Low                          | See Appendix F.2. Section 2. |
|   | Smoke from open fires used by site staff for heating and cooking as well as from uncontrolled fires   | Low                          | See Appendix F.2. Section 2. |
|   | <i>Removal of exotic and declared invader species (positive impact).</i>  | Medium                       | See Appendix F.2. Section 2. |
|   | Destruction of Western Sandy Bushveld vegetation during the construction of the bush camp as a result of the activities of workers, heavy machinery, haulers and other construction vehicles and equipment. | Low                          | See Appendix F.2. Section 2. |
|   | Destruction or damage to protected plant species.   |                              | See Appendix F.2. Section 2. |
|   | Increase in exotic vegetation as alien plant species spread to disturbed soils  | Low                          | See Appendix F.2. Section 2. |
|   | Disturbance to non-perennial drainage lines and loss of stabilising vegetation due to construction activities undertaken nearby, and crossing of the drainage lines with vehicles and equipment.            | Low                          | See Appendix F.2. Section 2. |
|   | Soil compaction as a result of construction vehicles and traffic.   | Medium                       | See Appendix F.2. Section 2. |
| Bush Encroachment.  | Low   | See Appendix F.2. Section 2. |                              |
| Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat  | Medium  | See Appendix F.2. Section 2. |                              |
| Faunal disturbance due to the presence of construction personnel on site, and noise due to construction | Low   | See Appendix F.2. Section 2. |                              |

| Activity | Impact summary  | Significance | Proposed mitigation          |
|----------|---|--------------|------------------------------|
|          | activities  |              |                              |
|          | Persecution and hunting of fauna by construction personnel on site  | Low          | See Appendix F.2. Section 2. |
|          | Loss of potentially arable land due to construction activities  | Low          | See Appendix F.2. Section 2. |
|          | Damage to and / or destruction of heritage resources  | Negligible   | See Appendix F.2. Section 2. |
|          | Damage to and / or destruction of archaeological or historical artefacts unearthed during construction  | Low          | See Appendix F.2. Section 2. |
|          | Potential visual impact of construction on visual receptors in close proximity to the proposed bush camp  | Low          | See Appendix F.2. Section 2. |
|          | <i>Stimulation of the local economy, especially the local service delivery industry, (, transport and security, etc.). (positive impact)</i>  | Medium       | See Appendix F.2. Section 2. |
|          | <i>Short term employment and business opportunities and the opportunity for skills development and on-site training. (positive impact)</i>  | Medium       | See Appendix F.2. Section 2. |
|          | An increase in construction workers and associated increase in social problems for the community  | Low          | See Appendix F.2. Section 2. |
|          | Potential impacts on family structures, social networks and community services associated with the influx of job seekers  | Low          | See Appendix F.2. Section 2. |
|          | Potential loss of livestock, poaching and damage to farm infrastructure associated with the presence of construction workers on site.   | Low          | See Appendix F.2. Section 2. |
|          | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires   | Low          | See Appendix F.2. Section 2. |
|          | Impact of construction vehicles and the resultant noise, dust, and safety impacts for other road users and the residents.   | Low          | See Appendix F.2. Section 2. |
|          | <b>Indirect impacts:</b>  |              |                              |
|          | None  |              |                              |
|          | <b>Cumulative impacts:</b>  |              |                              |
|          | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.  | Low          | See Appendix F.2. Section 2. |
|          | Cumulative loss in the floral species richness of the area which will subsequently lead to a reduction in the overall extent of the vegetation  | Negligible   | See Appendix F.2. Section 2. |
|          | Cumulative loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat.  | Negligible   | See Appendix F.2. Section 2. |
|          | Overall loss of farmland could affect the livelihoods of the affected farmers, their families, and the workers on the farms and their families  | Negligible   | See Appendix F.2. Section 2. |
|          | <i>Opportunity to up-grade and improve skills levels in the area. However, due to relatively small number of local employment opportunities this benefit is likely to be limited. (positive impact)</i> | Medium       | See Appendix F.2. Section 2. |
|          | If damage to roads is not repaired then this will impact on other road users and result in higher maintenance   | Low          | See Appendix F.2. Section 2. |



| Activity   | Impact summary   | Significance                 | Proposed mitigation          |
|--|--|------------------------------|------------------------------|
|  | costs for vehicles of local farmers and other road users. The costs will be borne by road users who were not responsible for the damage.   |                              |                              |
| Operational Phase  | <b>Direct impacts:</b>   |                              |                              |
|  | Depletion of ground water resources due to over use and waste during operation   | Low                          | See Appendix F.2. Section 3. |
|  | Alteration of water quality – increasing the amounts of nutrients.   | Low                          | See Appendix F.2. Section 3. |
|  | Alteration of water quality – toxic contaminants   | Low                          | See Appendix F.2. Section 3. |
|  | Changing the amount of sediment entering water resource and associated change in turbidity.  | Low                          | See Appendix F.2. Section 3. |
|  | Alteration of water quality – toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.2. Section 3. |
|  | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage.   | Low                          | See Appendix F.2. Section 3. |
|  | Soil pollution due to toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.2. Section 3. |
|  | Erosion resulting from the concentration of rainwater and / or wash water rushing off hard surfaces.   | Low                          | See Appendix F.2. Section 3. |
|  | Air pollution by emission from private vehicles travelling to and from the site.   | Low                          | See Appendix F.2. Section 3. |
|  | The spread of alien invasive plants in poorly rehabilitated areas  | Low                          | See Appendix F.2. Section 3. |
|  | Bush Encroachment.   | Low                          | See Appendix F.2. Section 3. |
|  | Destruction or damage to protected plant species.  | Low                          | See Appendix F.2. Section 3. |
|  | Faunal disturbance due to operational activities and people present on site.   | Low                          | See Appendix F.2. Section 3. |
|  | Mortality of fauna due to exposure to collisions with infrastructure and cables  | Negligible                   | See Appendix F.2. Section 3. |
|  | During the operational phase, contaminates such as pesticides and oils may be used and / or spilt on site. The presence of such contaminants may result in the death of fauna species. | Negligible                   | See Appendix F.2. Section 3. |
|  | Potential visual impact on users of game viewing tracks in close proximity to the proposed sites   | Low                          | See Appendix F.2. Section 3. |
|  | Potential visual impact on residents of homesteads / lodges or settlements in close proximity to the proposed units  | Negligible                   | See Appendix F.2. Section 3. |
|  | Potential visual impact on sensitive visual receptors within the region  | Negligible                   | See Appendix F.2. Section 3. |
|  | Potential visual impact of lighting on visual receptors in close proximity of the proposed units   | Low                          | See Appendix F.2. Section 3. |
|  | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires.                               | Low                          | See Appendix F.2. Section 3. |
| Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires. | Low  | See Appendix F.2. Section 3. |                              |
| <b>Indirect impacts:</b>   |  |                              |                              |

| Activity                          | Impact summary  | Significance | Proposed mitigation          |
|-----------------------------------|---|--------------|------------------------------|
|                                   | Potential visual impact of the proposed camp on visual character of the landscape and sense of place of the region.               | Low          | See Appendix F.2. Section 3. |
|                                   | Potential visual impact of the proposed camp plans on tourist facilities and tourist access routes within the region.             | Low          | See Appendix F.2. Section 3. |
| <b><i>Cumulative impacts:</i></b> |   |              |                              |
|                                   | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.                          | Low          | See Appendix F.2. Section 3. |
|                                   | <i>Promotion of social and economic development and improvement in the overall well-being of the community. (positive impact)</i> | Medium       | See Appendix F.2. Section 3. |

| Activity  | Impact summary  | Significance                 | Proposed mitigation          |
|---|---|------------------------------|------------------------------|
| <b>SITE Alternative 3</b>   |   |                              |                              |
| Construct-<br>ion<br>Phase  | <b>Direct impacts:</b>  |                              |                              |
|   | Depletion of ground water resources due to over use and waste during construction.  | Negligible                   | See Appendix F.3. Section 2. |
|   | Alteration of water quality – increasing the amounts of nutrients   | Low                          | See Appendix F.3. Section 2. |
|   | Alteration of water quality by toxic contaminants including toxic metal ions.   | Low                          | See Appendix F.3. Section 2. |
|   | Disturbance to hydrological function (quality and fluctuation properties) of the drainage lines   | Medium                       | See Appendix F.3. Section 2. |
|   | Changes in the amount of sediment entering the water resource and the associated change in turbidity  | Medium                       | See Appendix F.3. Section 2. |
|   | Changing the physical structure within a water resource (habitat)   | Medium                       | See Appendix F.3. Section 2. |
|   | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage   | Low                          | See Appendix F.3. Section 2. |
|   | Soil pollution due to toxic contaminants  | Low                          | See Appendix F.3. Section 2. |
|   | Soil pollution due to un-managed runoff of grey water, cement slurry and wash water, litter and other inert construction waste.   | Low                          | See Appendix F.3. Section 2. |
|   | Soil erosion due to the removal of stabilising vegetation during construction   | Low                          | See Appendix F.3. Section 2. |
|   | Air pollution by emissions from construction vehicles and equipment   | Low                          | See Appendix F.3. Section 2. |
|   | Dust liberated by general construction activities and movement of construction vehicles to, from and over the site.   | Low                          | See Appendix F.3. Section 2. |
|   | Smoke from open fires used by site staff for heating and cooking as well as from uncontrolled fires   | Low                          | See Appendix F.3. Section 2. |
|   | <i>Removal of exotic and declared invader species (positive impact).</i>  | Medium                       | See Appendix F.3. Section 2. |
|   | Destruction of Western Sandy Bushveld vegetation during the construction of the bush camp as a result of the activities of workers, heavy machinery, haulers and other construction vehicles and equipment. | Low                          | See Appendix F.3. Section 2. |
|   | Destruction or damage to protected plant species.   |                              | See Appendix F.3. Section 2. |
|   | Increase in exotic vegetation as alien plant species spread to disturbed soils  | Low                          | See Appendix F.3. Section 2. |
|   | Disturbance to non-perennial drainage lines and loss of stabilising vegetation due to construction activities undertaken nearby, and crossing of the drainage lines with vehicles and equipment.            | Low                          | See Appendix F.3. Section 2. |
|   | Soil compaction as a result of construction vehicles and traffic.   | Medium                       | See Appendix F.3. Section 2. |
| Bush Encroachment.  | Low   | See Appendix F.3. Section 2. |                              |
| Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat  | Medium  | See Appendix F.3. Section 2. |                              |
| Faunal disturbance due to the presence of construction personnel on site, and noise due to construction | Low   | See Appendix F.3. Section 2. |                              |

| Activity | Impact summary  | Significance | Proposed mitigation          |
|----------|---|--------------|------------------------------|
|          | activities  |              |                              |
|          | Persecution and hunting of fauna by construction personnel on site  | Low          | See Appendix F.3. Section 2. |
|          | Loss of potentially arable land due to construction activities  | Low          | See Appendix F.3. Section 2. |
|          | Damage to and / or destruction of heritage resources  | Negligible   | See Appendix F.3. Section 2. |
|          | Damage to and / or destruction of archaeological or historical artefacts unearthed during construction  | Low          | See Appendix F.3. Section 2. |
|          | Potential visual impact of construction on visual receptors in close proximity to the proposed bush camp  | Low          | See Appendix F.3. Section 2. |
|          | <i>Stimulation of the local economy, especially the local service delivery industry, (, transport and security, etc.). (positive impact)</i>  | Medium       | See Appendix F.3. Section 2. |
|          | <i>Short term employment and business opportunities and the opportunity for skills development and on-site training. (positive impact)</i>  | Medium       | See Appendix F.3. Section 2. |
|          | An increase in construction workers and associated increase in social problems for the community  | Low          | See Appendix F.3. Section 2. |
|          | Potential impacts on family structures, social networks and community services associated with the influx of job seekers  | Low          | See Appendix F.3. Section 2. |
|          | Potential loss of livestock, poaching and damage to farm infrastructure associated with the presence of construction workers on site.   | Low          | See Appendix F.3. Section 2. |
|          | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires   | Low          | See Appendix F.3. Section 2. |
|          | Impact of construction vehicles and the resultant noise, dust, and safety impacts for other road users and the residents.   | Low          | See Appendix F.3. Section 2. |
|          | <b>Indirect impacts:</b>  |              |                              |
|          | None  |              |                              |
|          | <b>Cumulative impacts:</b>  |              |                              |
|          | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.  | Low          | See Appendix F.3. Section 2. |
|          | Cumulative loss in the floral species richness of the area which will subsequently lead to a reduction in the overall extent of the vegetation  | Negligible   | See Appendix F.3. Section 2. |
|          | Cumulative loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat.  | Negligible   | See Appendix F.3. Section 2. |
|          | Overall loss of farmland could affect the livelihoods of the affected farmers, their families, and the workers on the farms and their families  | Negligible   | See Appendix F.3. Section 2. |
|          | <i>Opportunity to up-grade and improve skills levels in the area. However, due to relatively small number of local employment opportunities this benefit is likely to be limited. (positive impact)</i> | Medium       | See Appendix F.3. Section 2. |
|          | If damage to roads is not repaired then this will impact on other road users and result in higher maintenance   | Low          | See Appendix F.3. Section 2. |

| Activity   | Impact summary   | Significance                 | Proposed mitigation          |
|--|--|------------------------------|------------------------------|
|  | costs for vehicles of local farmers and other road users. The costs will be borne by road users who were not responsible for the damage.   |                              |                              |
| Operational Phase  | <b>Direct impacts:</b>   |                              |                              |
|  | Depletion of ground water resources due to over use and waste during operation   | Low                          | See Appendix F.3. Section 3. |
|  | Alteration of water quality – increasing the amounts of nutrients.   | Medium                       | See Appendix F.3. Section 3. |
|  | Alteration of water quality – toxic contaminants   | Medium                       | See Appendix F.3. Section 3. |
|  | Changing the amount of sediment entering water resource and associated change in turbidity.  | Medium                       | See Appendix F.3. Section 3. |
|  | Alteration of water quality – toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.3. Section 3. |
|  | Soil pollution due to disposal or discharge of human (including partially treated and untreated) sewage.   | Low                          | See Appendix F.3. Section 3. |
|  | Soil pollution due to toxic contaminants including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons.  | Low                          | See Appendix F.3. Section 3. |
|  | Erosion resulting from the concentration of rainwater and / or wash water rushing off hard surfaces.   | Low                          | See Appendix F.3. Section 3. |
|  | Air pollution by emission from private vehicles travelling to and from the site.   | Low                          | See Appendix F.3. Section 3. |
|  | The spread of alien invasive plants in poorly rehabilitated areas  | Low                          | See Appendix F.3. Section 3. |
|  | Bush Encroachment.   | Low                          | See Appendix F.3. Section 3. |
|  | Destruction or damage to protected plant species.  | Low                          | See Appendix F.3. Section 3. |
|  | Faunal disturbance due to operational activities and people present on site.   | Low                          | See Appendix F.3. Section 3. |
|  | Mortality of fauna due to exposure to collisions with infrastructure and cables  | Negligible                   | See Appendix F.3. Section 3. |
|  | During the operational phase, contaminates such as pesticides and oils may be used and / or spilt on site. The presence of such contaminants may result in the death of fauna species. | Negligible                   | See Appendix F.3. Section 3. |
|  | Potential visual impact on users of game viewing tracks in close proximity to the proposed sites   | Medium                       | See Appendix F.3. Section 3. |
|  | Potential visual impact on residents of homesteads / lodges or settlements in close proximity to the proposed units  | Negligible                   | See Appendix F.3. Section 3. |
|  | Potential visual impact on sensitive visual receptors within the region  | Negligible                   | See Appendix F.3. Section 3. |
|  | Potential visual impact of lighting on visual receptors in close proximity of the proposed units   | Low                          | See Appendix F.3. Section 3. |
|  | Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires.                               | Low                          | See Appendix F.3. Section 3. |
| Potential loss of livestock, crops and houses, damage to farm infrastructure and threat to human life associated with increased incidence of veld fires. | Low  | See Appendix F.3. Section 3. |                              |
| <b>Indirect impacts:</b>   |  |                              |                              |

| Activity | Impact summary  | Significance | Proposed mitigation          |
|----------|---|--------------|------------------------------|
|          | Potential visual impact of the proposed camp on visual character of the landscape and sense of place of the region.               | Low          | See Appendix F.3. Section 3. |
|          | Potential visual impact of the proposed camp plans on tourist facilities and tourist access routes within the region.             | Low          | See Appendix F.3. Section 3. |
|          | <b><i>Cumulative impacts:</i></b>   |              |                              |
|          | Depletion of ground water resources due to accumulated use by increasing numbers of users in the region.                          | Low          | See Appendix F.3. Section 3. |
|          | <i>Promotion of social and economic development and improvement in the overall well-being of the community. (positive impact)</i> | Medium       | See Appendix F.3. Section 3. |

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 is included as Appendix F.

## 2. Environmental Impact Statement

### Alternative 1 (preferred alternative)

The preferred option, Site 1 Jagtersrus, will have no significant impact on the environment provided that the mitigation measures as detailed in the Impact Tables, Specialist Reports and EMPr are effected.

The only negative impacts that may be rated medium post mitigation are as follows:

- Soil compaction as a result of construction vehicles and traffic. This will occur on the specific site and is a generally accepted consequence of construction activity.
- Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat. This will similarly occur on the specific site and is a generally accepted consequence of construction.

The above negative impacts are all related to the construction phase, and it is anticipated that they will over time be naturally ameliorated as the development site recovers and is rehabilitated.

Positive impacts, which are common to all three alternative sites, include contributions to the local economy and community well-being in the form of job creation and skills transfer and training in both the construction and operational phases of the project. Furthermore, the fostering of eco-tourism in the area will have a positive indirect impact on the stimulation of local tourism support SMME's.

It is the EAP's considered opinion that Site Alternative 1, be endorsed and Environmental Authorisation be issued for the development of the Bush Camp on this site.

It is submitted that the project site will have a relatively small footprint disturbance on the natural environment, is well hidden from any sensitive visual receptors, and will have no impact on cultural historic resources.

## Alternative 2

The Alternative Site 2 Buffelspoort, will have no significant impact on the environment provided that the mitigation measures as detailed in the Impact Tables, Specialist Reports and EMPr are effected.

Alternative 2 displays very similar results to Site Alternative 1 in terms of impact ratings, and the only negative impacts that may be rated medium (post mitigation) are as follows:

- Soil compaction as a result of construction vehicles and traffic. This will occur on the specific site and is a generally accepted consequence of construction activity.
- Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat. This will similarly occur on the specific site and is a generally accepted consequence of construction.

The above negative impacts are related to the construction phase, and it is anticipated that they will over time be naturally ameliorated as the development site recovers and is rehabilitated.

Positive impacts, which are common to all three alternative sites, include contributions to the local economy and community well-being in the form of job creation and skills transfer and training in both the construction and operational phases of the project. Furthermore, the fostering of eco-tourism in the area will have a positive indirect impact on the stimulation of local tourism support SMME's.

Site 2 is less preferred due to it's location close to periphery of the Marakele National Park, in relative close proximity to adjacent farms, specifically the Mateke Resort. In this regard, the possible visual impact of potential future development outside the Marakele National Park, is of concern. The proximity to the public 'Buffelspoort Road' is also of concern.

As the site is located close to the source of the Mamba river, impacts relating to the hydrological integrity of the river are likely to be slightly more acute.

Access to the site from the main lodge (Marataba Lodge - from where all deliveries will be made), is difficult by road, and significantly further, distance wise, than alternatives 1 and 3.

It is therefore the EAP's considered opinion that Site Alternative 2 not be considered as the most environmentally feasible option.



### Alternative 3

The Alternative Site 3 Kubu Dam, is located in very close proximity to the Matlabas river, and in fact falls within the 100 year floodline. The site was primarily chosen as an alternative due to the fact that it is already disturbed, and includes a derelict lapa platform and other assorted infrastructural remnants.

The recent heavy rains in the area (February 2014), have highlighted the fact that this site will be prone to flooding, which may engulf the site, and will certainly affect access to the site.

As a result, the site manifests certain significant negative impacts (rated moderate, post mitigation), which will not easily be ameliorated or mitigated. These are primarily related to the hydrological integrity of the Matlabas River.

Other impacts are similar to those discussed under Alternatives 1 and 2 above, and include:

- Soil compaction as a result of construction vehicles and traffic. This will occur on the specific site and is a generally accepted consequence of construction activity.
- Loss of faunal habitat and fragmentation due to vegetation clearing and alteration of existing habitat. This will similarly occur on the specific site and is a generally accepted consequence of construction.

Site 3 also demonstrates a visual exposure footprint in the Jagtersrus valley. Positioned as it is along the river, it is likely that the site will be visible from a number of game drive routes in the valley,

Positive impacts, which are common to all three alternative sites, include contributions to the local economy and community well-being in the form of job creation and skills transfer and training in both the construction and operational phases of the project. Furthermore, the fostering of eco-tourism in the area will have a positive indirect impact on the stimulation of local tourism support SMME's.

Considering the above, it is the EAP's opinion that Site Alternative 3 is not a feasible alternative and should be discarded. It is further recommended that the site be rehabilitated, and possibly used as a picnic area.

---

**No-go alternative (compulsory)**

The No-Go alternative implies that the planned development of the Bush Camp will be shelved. In this scenario, there will be no negative impacts relating to the biodiversity of the site and surrounds, the aesthetic integrity of the site and surrounds, and the cultural historic integrity of the site.

However, the No-Go alternative will also imply that the project benefits, or positive impacts, will be lost. Such includes, but no limited to:

- Job creation, skills transfer and training during the construction phase, at a value of R800 000.
- The creation of 5 permanent jobs at an expected current value of R2,4 million over the first 10 years.

The No-Go option further denies any opportunity to further develop The Marakele Park for non-consumptive ecotourism, in the form of trails and hikes. The 20 000 ha Marakele Park is grossly underutilized as a prime tourist destination despite the inherent opportunities of the park.

It is therefore submitted that the No-Go Option should not be considered as a viable alternative.

## 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<br>✓ | NO |
|----------|----|

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).

N/A

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

Mitigation procedures detailed in the BAR, Specialist Studies and Environmental Management Programme must be implemented for the duration of the construction phase and operational phase of the project.

Additionally, the following recommendations apply:

Recommendations in the Planning Phase:

- An Ecologist should walk through the final site layout, and identify and mark all protected plant and tree species. Every effort must be made to incorporate all trees into the design of the units and facilities to ensure the protection of the properties natural assets.
- Implement the 'Leave that Log' Principle. By leaving elements of the habitat untouched, it will ensure that insects, reptiles etc. will continue on as normal.
- The final design and layout of the units and facilities must be in line with the land-use patterns in the greater area. By building single story units and using natural paint colours, the units will not intrude on the natural environment.
- Draw up a Construction Operation Plan indicating how the construction site will operate in terms of access, activities, phasing, etc. (during project planning).

Recommendations in the Construction Phase:

- A 'locals first' policy should be implemented where possible and local contractors should be appointed especially for low-skilled jobs.
- Contact numbers of all adjacent and neighbouring farms should be collected by the contractor so that in the event of a fire, they can be contacted.
- Dust during construction should be controlled via the dampening of exposed areas.
- Alien plant species must be eradicated and follow up measures must be put in place to prevent the spread of these alien plants in the disturbed soils.
- A Rehabilitation Plan must be implemented after construction to ensure that all exposed areas around the units are re-vegetated with local endemic plant species, using the topsoil stockpiled. No alien vegetation is permitted.

- A sound Storm water management plan must be implemented to avoid the pollution of drainage lines, ground and surface water.

Recommendations in the Operational Phase:

- All rehabilitated areas should be monitored for a year to ensure the re-establishment of vegetation and the prevention of erosion.
- Ensure the units and facilities sewage system is well maintained to prevent pollution of water sources.
- Maintain the Storm water management system to ensure that surface and runoff water from hard surfaces does not contribute to erosion and pollution.
- Implement an alien invasive monitoring programme to prevent the colonization and spreading of these species.

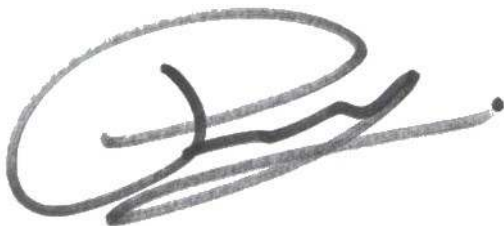
An independent Environmental Control Officer must be appointed to oversee and audit the construction works. It is recommended that The Marakele Park (Pty) Ltd further appoint an ECO for 6 monthly audits during the operation phase of the project.

Is an EMPr attached?

|          |    |
|----------|----|
| YES<br>✓ | NO |
|----------|----|

Peter Velcich

NAME OF EAP



SIGNATURE OF EAP

20 March 2014  
DATE

## Section F: Appendixes

---

The following appendixes are attached:

### Appendix A: Maps

- APP A.1 Orientation
- APP A.2 Detailed Sites Map
- APP A.3.1 Visual Exposure Site 1
- APP A.3.2 Visual Exposure Site 2
- APP A.3.3 Visual Exposure Site 3

### Appendix B: Photographs

- APP B Photo Plate Preferred Site Alt 1
- APP B Photo Plate Sites Alternatives 2 & 3

### Appendix C: Facility illustration(s)

- APP C.1 Mara Trails Camp Central Facility plan
- APP C.2 Mara Trails Camp Typical chalet plan and perspective
- APP C.3 Mara Trails Camp Typical chalet section

### Appendix D: Specialist reports (including terms of reference)

- APP D.1 Terms of Reference – Specialists
- APP D.2 Terms of Reference – SAHRA
- APP D.3 Cultural Heritage Assessment
- APP D.4 Ecological Opinion
- APP D.5 Visual Assessment

### Appendix E: Public Participation Process

### Appendix F: Impact Assessment Tables

- APP F.1 Impact Assessment Tables Site 1
- APP F.2 Impact Assessment Tables Site 2
- APP F.3 Impact Assessment Tables Site 3

### Appendix G: Environmental Management Programme Report

### Appendix H: Details of the EAP, expertise, and Declaration of Interest

- APP H.1 Details of the EAP and Declaration of Interest
- APP H.2 Details and Expertise of the EAP

### Appendix I: Specialist's declaration of interest

- APP I.1 Details of Specialist & Declaration of Interest FC COETZEE
- APP I.2 Details of Specialist & Declaration of Interest A EYSSELL

### Appendix J: Additional Information

- APP J.1 Biozone Package Sewage Treatment Plant Product & Technology Description