

# BASIC ASSESSMENT REPORT



the denc

Department:  
Environment & Nature Conservation  
NORTHERN CAPE PROVINCE  
REPUBLIC OF SOUTH AFRICA

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File Reference Number:   
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Date Received:

## BASIC ASSESSMENT REPORT

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

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#### **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, 2014 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 07 April 2017. 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.

**SECTION A: BASIC ASSESSMENT CONTENT CHECK LIST**

**Table 1: Basic Assessment Content Check List**

Details of the EAP, including curriculum vitae.	<b>Page 1 &amp; Appendix H</b>	
The location of the activity, including: the 21 digit Surveyor General code of each cadastral land parcel; where available, the physical address and farm name; where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.	<b>Page 6 and 45</b>	
A plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale.	<b>Page 28 and 29 &amp; Appendix A and C</b>	
A description of the scope of the proposed activity, including all listed and specified activities triggered and being applied for; and a description of the activities to be undertaken including associated structures and infrastructure	<b>Page 15 and 16</b>	
Description of the policy and legislative context within which the development is proposed including- an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments	<b>Page 37 - 40</b>	
A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	<b>Page 31 to 36</b>	
A motivation for the preferred site, activity and technology alternative.	<b>Page 17 to 24</b>	
A full description of the process followed to reach the proposed preferred alternative within the site, including: details of all the alternatives considered; details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts- can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated; the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical,	<b>Pages 17 - 24</b> <b>17 - 24</b> <b>61 - 64</b> <b>Appendix E</b> <b>40 -60</b> <b>65 - 77</b> <b>65 -77</b> <b>Appendix F</b>	

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<p>biological, social, economic, heritage and cultural aspects;  the possible mitigation measures that could be applied and level of residual risk;  the outcome of the site selection matrix;  if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and  a concluding statement indicating the preferred alternatives, including preferred location of the activity;</p>	<p><b>77 and Appendix F</b></p> <p><b>N/A</b></p> <p><b>74 - 77</b></p>	
<p>A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including-</p> <ul style="list-style-type: none"> <li>a description of all environmental issues and risks that were identified during the environmental impact assessment process; and</li> <li>(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;</li> </ul>	<p><b>Pages 65 – 77 and Appendix F</b></p>	
<p>an assessment of each identified potentially significant impact and risk, including-</p> <ul style="list-style-type: none"> <li>cumulative impacts;</li> <li>the nature, significance and consequences of the impact and risk;</li> <li>the extent and duration of the impact and risk;</li> <li>the probability of the impact and risk occurring;</li> <li>the degree to which the impact and risk can be reversed;</li> <li>the degree to which the impact and risk may cause irreplaceable loss of resources; and</li> <li>the degree to which the impact and risk can be avoided, managed or mitigated;</li> </ul>	<p><b>Pages 65 – 77 and Appendix</b></p>	
<p>Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report;</p>	<p><b>77 and Appendix F</b></p>	
<p>An environmental impact statement which contains-</p> <ul style="list-style-type: none"> <li>a summary of the key findings of the environmental impact assessment;</li> <li>a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and</li> <li>a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;</li> </ul>	<p><b>74</b></p>	
<p>Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr.</p>	<p><b>77 and Appendix F</b></p>	
<p>Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.</p>	<p><b>77 and Appendix F</b></p>	
<p>A description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed.</p>	<p><b>Page 72</b></p>	
<p>A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;</p>	<p><b>Page 71 - 78</b></p>	

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Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised.	<b>N/A</b>	
An undertaking under oath or affirmation by the EAP in relation to the correctness of the information provided in the reports; <ul style="list-style-type: none"> <li>i. the inclusion of comments and inputs from stakeholders and I&amp;AP's;</li> <li>ii. the inclusion of inputs and recommendations from the specialist reports where relevant; and</li> <li>iii. any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties; and where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;</li> </ul>	<b>Page 74 - 76 &amp; Appendix I</b>	
Any specific information that may be required by the competent authority; and	<b>None</b>	
Any other matters required in terms of section 24(4)(a) and (b) of the Act.	<b>None</b>	

**The basic assessment report must take into account -**

- (a) any relevant guidelines; and
- (b) any departmental policies, environmental management instruments and other decision making instruments that have been developed or adopted by the competent authority in respect of the kind of activity which is the subject of the application.

\*In terms of Regulation 22(4), the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub regulation 22(2)(h), exist.

**Table 2: Indication of evaluation of alternatives**

Have reasonable and feasible alternatives been identified, described and assessed?	YES ✓	NO
If NO, the motivation and investigation required in terms of Regulation 22(4) must be attached as an Appendix to this document		

## SECTION B: EXECUTIVE SUMMARY

### 1 INTRODUCTION

Henwood Environmental Solutions (HES), as Independent Environmental Consultants and Impact Assessors, has been appointed by Tswalu Kalahari Reserve (PTY) LTD, to facilitate the Integrated Environmental Management (IEM) procedure, for the proposed development of a New Tented Camp (Tswalu Camp 3) on the Farm Bruwer 294 and Expansion of the Staff Accommodation on the Farm Witberg 295, Tswalu Kalahari Reserve, Northern Cape.

The project site co-ordinates are:

New Tented Camp

- 27° 12' 17.9654" S, 22° 30' 33.6776" E

Staff Accommodation Expansion

- 27° 11' 42.2254" S, 22° 28' 1.7125" E

Proposed Development of a New Tented Camp (Tswalu Camp 3) on the Farm Bruwer 294 and Expansion of the Staff Accommodation on the Farm Witberg 295, Tswalu Kalahari Reserve, Northern Cape.

Tswalu Kalahari Reserve (Pty) Ltd would like to develop a new tented camp (Tswalu Camp 3) as well as expand their existing staff accommodation. In this regard the following is envisaged:

#### **New Camp**

- 5 individual (one bedroom) and 3 two-bedroomed tented villas.
  - Each villa tent would have an entrance "outhouse" for storage and to accommodate a butler when tented villas occupied by guests .
  - Each villa will have a pool and firepit above ground.
  - Each villa will be located within a designated development area of 1960m<sup>2</sup>
- A back of house area developed within a designated 7880m<sup>2</sup>
  - Storerooms
  - Office space; and
  - A solar array

#### **Staff Accommodation Expansion**

- 1 student dormitory block
  - 1 block consisting of 6 bedrooms (shared kitchen & lounge)
- 6 single blocks
  - bachelor units (2 double bed units & 4 single bed units)
- 3 managers houses
  - 2 Bedroom units

(See Locality Map, attached as **Appendix A, Annexure A** and preferred Layout Plan attached as **Appendix A, Annexure B and C**).

The project has been informed by intensive planning so as to ensure that the new tented camp and staff accommodation has a minimal negative impact on the site, its ecology and the surrounding area, while promoting positive impacts, on the receiving environment.

Alternatives were evaluated during the initial planning stage of the project. The inputs received during Public Participation as well as those highlighted through consultation with various authorities, were used to revise and further inform specifics related to the new tented camp and staff accommodation.

## **2 ENVIRONMENTAL IMPACT ASSESSMENT REQUIREMENTS**

The proposed development involves listed activities, as defined by Chapter 6 of the National Environmental Management Act, 1998 (NEMA) 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014. Listed activities are activities, which may have potentially detrimental impacts on the environment and therefore require environmental authorization from the Competent Authority (CA). The Competent Authority for this project is the Department Environment and Nature Conservation (Northern Cape) (DENC).

The proposed tented camp and staff accommodation development is subject to a Basic Assessment process as prescribed in GN 983.

This document, duly completed, constitutes the Final Basic Assessment Report (FBAR). It has been compiled as a result of the findings, from the specialist study, and various inputs from I&AP's and Authorities during the public participation stage of the process. This FBAR will be presented to Interested and Affected Parties (I&AP's) for comment. These comments will be included in the final submission to DENC for consideration.

The purpose of a BAR is to present an objective evaluation of the anticipated environmental impacts of the proposed development.

The structure of this FBAR has been informed by the Mpumalanga Department of Economic Development, Environment and Tourism (DENC) EIR guidelines (DEA, 2006), and the need for a clear and succinct document to facilitate informed decision-making by the proponent and environmental authorities. The FBAR contains the following information:

- A summary description of the feasible alternatives and potential impacts identified during the planning phase. It should be noted that the alternatives have been refined/ augmented due to requirements and available information;
- Information on the affected environment;
- A description and assessment of the potential impacts associated with the various feasible alternatives as well as an indication of potential mitigation measures;
- A conclusion and various recommendations with regard to the way forward; and
- A series of Appendices containing relevant information, including the various specialist studies.

After completion of the Final Basic Assessment (FBAR) and incorporation of comment on the FBAR, the Competent Authority (DENC) will consider the FBAR report for compliance with the provisions of the EIA regulations.

DENC will also consider the findings and recommendations compiled by the EIA practitioner, as well as representations made by Interested and Affected Parties and commenting Authorities before making a decision on whether to authorize the activity.

DENC will then advise whether it is satisfied with:

**The contents of the BA Report**

**The findings of the BA Report**

**The recommendations of the BA Report and Environmental Management Programme (EMPr)**

**Should DENC be satisfied with the above items it will draft an Environmental Authorisation.**

### **3 PUBLIC PARTICIPATION PROCESS**

Public participation forms an integral component of the EIA process. The public participation process for the project is outlined in detail in section 4 of this report.

The approach adopted for the project was to liaise predominantly with registered I&AP's or those directly affected by the proposed activities. Consequently, subsequent correspondence has only been directed to registered I&AP's and commenting Authorities.

The public participation process to date has entailed the following key components:

- Placing an advertisement in the local Noordkaap Bulletin (English) on 26th August 2021. This advertisement served to advertise the proposed development and associated EIA process while inviting all potential I&AP's to register as I&AP's
- Giving written notice to owners and occupiers of land adjacent to the Farms Bruwer 294 and Farm Witberg 295, as well as the Tswalu Management (APPENDIX E), and organs of state having jurisdiction in respect of the proposed activity. Consequently, a Background Information Document (BID) was prepared and distributed via email (APPENDIX E) to:
- Fixing a notice board at a place conspicuous to the public, specifically at Tswalu's Gate (APPENDIX E). There was no reasonable alternative site.
- Making a copy of the Draft BAR available for public and authority review from the 09 February 2022, so as to conduct the mandatory 30 day public participation process ('PPP') in terms of regulation 19(1)(a) of the EIA Regulations.

### **4 PROJECT BACKGROUND AND MOTIVATION**

#### **4.1 Necessity and Desirability**

The construction and expansion is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively. This can only occur within certain designated areas within the Reserve. Ecologically the sites chosen (if mitigation measures are properly implemented), is well suited for the construction of the upgrade components. Given that operational efficiency, sense of place and what the guests needs are, to suggest an alternative site in an area that may exhibit a higher ecological sensitivity would be unreasonable.

The proposed development offers the following in support of the project:

- The hospitality sector traditionally provides significant job training.
- The existing Game Reserve already contributes significantly to job creation and training by employing over 200 full time employees which will increase to 270 employees when the new Camp is operational.
- Tswalu funds a free Health Care Centre for any member of the greater community. This clinic provides professional health care to a community with very little access to such facilities, at present providing health care for approximately 400 persons per month. The impact of this free and comprehensive Health Care cannot be overstated.
- Tswalu inhabitants' children have access to an Early Childhood development Centre and adults have access to the companies Adult Basic Education Training facility (for basic literacy and skills development). In addition, the Tswalu Academy provides for training of people entering both the hospitality and security/wildlife job market.
- Tswalu also operates a security team that apart from providing security for the Tswalu Kalahari Game Reserve, also assists in providing a security presence to the neighbouring areas and provides support for the SAPS when requested to do so.
- The Reserve funds a number of research programs including a study on the impact of global warming on mammals, butterflies etc in the area.



- Tswalu provides an important ecosystem service to the regional economy by creating reservoirs of biodiversity which in turn repopulate local farms with game birds, small mammals and even important vegetation.
- The property has not been used for traditional agricultural purposes for 26 years. The granting of an environmental authorisation for this activity is desirable for the following reasons
  - It will enhance the community services detailed above.
  - It will assist in increasing the profile of this remote region of the country in the South African tourism sector and will undoubtedly attract more South African travellers into the region and introduce them to the special characteristics of the Kalahari and its people.

The Tswalu Kalahari Game Reserve contributes significantly to the local economy including indirectly through its development projects.

### **4.2 KEY ENVIRONMENTAL ISSUES**

The assessed impacts were identified in the planning phase and have been subjected to detailed investigation and assessment. These impacts include potential biophysical and social impacts that may arise during the operational phase of the proposed activities (i.e. long-term impacts) and construction phase impacts (i.e. short-term impacts).

The methodology was developed by HES and has been continually refined and improved based on our experience in applying it to many EIA processes. The methodology is broadly consistent to that described in the NEMA EIA Regulations and in the DEA Guideline Document for these regulations (DEAT, 2006).

Each issue identified for the proposed study area was taken into consideration in order to ascertain the most suitable layout that has the least possible impacts, or the most manageable impacts, on the environment.

The following table summarises the significance of the identified potential impacts (i) before mitigation; and (ii) once recommended mitigation measures are in place.

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**Construction Phase**

IMPACT	Without mitigations (positive & negative)			With mitigation (positive & negative)		
	HIGH	MODERATE	LOW	HIGH	MODERATE	LOW
Ecological Sensitivity		*				*
Erosion and Sedimentation		*				*
Deterioration of Water Quality		*				*
Noise disturbance to surrounding land users		*				*
Windblown dust		*				*
Litter/waste pollution		*				*
Safety		*				*
Socio-Economic Impact			✓		✓	

**Operation Phase**

	Without mitigations			With mitigation		
	HIGH	MODERATE	LOW	HIGH	MODERATE	LOW
Erosion and Siltation			*			*
Visual – “sense of place		*				*
Land use			✓		✓	
Socio economic (job creation and capital investment)			✓		✓	

*It is felt that the proposed development will have an overall positive impact on the socio-economic environment, and should the necessary mitigation measures be implemented there are no impacts envisaged of high significance or any fatal flaws.*

*In this regard the EAP sees no reason as to why the proposed activity may not be authorised.*

### 4.3 RECOMMENDED MANAGEMENT ACTIONS

A variety of mitigation measures have been identified that could mitigate the scale, intensity, duration or significance of the impacts. These measures, which have been informed by the various specialist studies conducted, are included in this Basic Assessment Report (BAR) and in the draft EMPr (attached). The BAR and draft EMPr also includes guidelines to be applied during the construction and operational phases of the project.

### 4.4 CONCLUSIONS

Development, by its very nature, implies impact. The EIA process identifies and quantifies these impacts. Where possible these impacts are avoided through planning revision. In other cases, mitigation is proposed to reduce the severity and significance of the impacts.

The FBAR provides a summary description of the feasible alternatives and potential impacts identified during the BAR Phase; a description and assessment of the potential impacts associated with the various feasible alternatives as well as an indication of potential mitigation measures; conclusions and various recommendations with regard to the way forward; and a series of Appendices containing relevant information.

Regional planning frameworks, such as the Municipal Spatial Development Framework and relevant Biodiversity Conservation Plan are also largely in support of tourism and conservation as the preferred land use within this area, and in principle the new tented camp and staff accommodation adds to the overall value of the Tswalu Kalahari Nature Reserve as a conservation driven entity. What is more important is that the development will ensure continued access to the reserve. For this reason, these planning frameworks can be seen to be largely in support of the proposed tented camp and associated staff accommodation. The new tented camp and staff accommodation falls within an area that focuses on business/tourism and nature conservation. The new tourism development and associated staff accommodation is aimed at maintaining and enhancing the sustainability and ongoing operation of the Tswalu Kalahari Reserve (PTY) LTD.

Extensive work has gone into assessing the impact that the proposed activity would have on the daily functionality of the area. The proposed new tented camp and staff accommodation and their associated design has taken cognizance of all of these aspects and has been addressed in detail in the FBAR.

The draft EMPr provides much more detailed mitigation measures, and should all proposed mitigation measures be instituted it is not envisaged that the proposed development poses any negative impacts of high significance which cannot be mitigated.

It is the final considered opinion of the Environmental Assessment Practitioner (Henwood Environmental Solutions) that the new Tswalu tented camp and staff accommodation adds value to the land use within this area and as such is thus an acceptable activity that may take place on this property, provided that impacts are avoided where possible and in other instances, mitigated as far as possible.

**It is therefore the EAP's recommendation that authorisation be granted provided that good environmental practices be implemented;** and that this will include environmentally sensitive planning and design of the said new Tswalu Tented Camp and Staff accommodation.

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**SECTION C: TERMS & ABBREVIATIONS**

<b>Terms</b>	
<b>ECO</b>	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.
<b>Environment</b>	The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group; these circumstances include biophysical, social, economic, historical, cultural and political aspects.
<b>Environmental Impact Assessment (EIA)</b>	A study of the environmental consequences of a proposed course of action.
<b>Environmental impact</b>	an environmental change caused by some human act
<b>Geotechnical</b>	the study of geological conditions
<b>Hydrological</b>	the study of surface water and groundwater flow
<b>Public Participation Process</b>	a process of involving the public in order to identify needs, address concerns, choose options, plan and monitor in terms of a proposed project, programme or development
<b>Red Data Book (South African)</b>	an inventory of rare, endangered, threatened or vulnerable species of South African plants and animals
<b>Scoping</b>	a procedure for determining the extent of and approach to an EIA, used to focus the EIA to ensure that only the significant issues and reasonable alternatives are examined
<b>Scoping Report</b>	a report describing the issues identified

<b>Abbreviations</b>	
<b>DENC</b>	Department Environment and Nature Conservation (Northern Cape)
<b>DEA</b>	Department of Environment Affairs
<b>DME</b>	Department of Minerals and Energy
<b>DWAF</b>	Department of Water Affairs and Forestry
<b>ECA</b>	Environment Conservation Act
<b>ECO</b>	Environmental Control Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Programme

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<b>EIR</b>	Environmental Impact Report
<b>I&amp;AP's</b>	Interested and Affected Parties
<b>IDP</b>	Integrated Development Plan
<b>IEM</b>	Integrated Environmental Management
<b>NEMA</b>	National Environmental Management Act
<b>NHRA</b>	National Heritage Resources Act
<b>NWA</b>	National Water Act
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SDF</b>	Spatial Development Framework
<b>ToR</b>	Terms of Reference
<b>WULA</b>	Water Use Licence Application

**SECTION D: ACTIVITY INFORMATION**

Has a specialist been consulted to assist with the completion of this section?  YES  NO  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

**1 ACTIVITY DESCRIPTION**

**a) Describe the project associated with the listed activities applied for**

Proposed Development of a New Tented Camp (Tswalu Camp 3) on the Farm Bruwer 294 and Expansion of the Staff Accommodation on the Farm Witberg 295, Tswalu Kalahari Reserve, Northern Cape.

Tswalu Kalahari Reserve (Pty) Ltd would like to develop a new tented camp (Tswalu Camp 3) as well as expand their existing staff accommodation. In this regard the following is envisaged:

**New Camp**

- 5 individual (one bedroom) and 3 two-bedroomed tented villas.
  - Each villa tent would have an entrance "outhouse" for storage and to accommodate a butler when tented villas occupied by guests .
  - Each villa will have a pool and firepit above ground.
  - Each villa will be located within a designated development area of 1960m<sup>2</sup>
- A back of house area developed within a designated 7880m<sup>2</sup>
  - Storerooms
  - Office space; and
  - A solar array

**Staff Accommodation Expansion**

- 1 student dormitory block
  - 1 block consisting of 6 bedrooms (shared kitchen & lounge)
- 6 single blocks
  - bachelor units (2 double bed units & 4 single bed units)
- 3 managers houses
  - 2 Bedroom units

b) Provide a detailed description of the listed activities associated with the project as applied for

<p>Listed activity as described in GN R.327, 325 and 324</p> <p><b><u>Activity 27 of GNR983:</u></b> : <i>“The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation,”</i></p>	<p>Description of project activity that triggers listed activity</p> <p><i>The development of a tented camp consisting of:</i></p> <p><b><u>New Camp (9866m<sup>2</sup>)</u></b></p> <ul style="list-style-type: none"> <li>• 5 individual (one bedroom) and 3 two-bedroomed tented villas.</li> <li>• A back of house area consisting of Storerooms, Office space; and a solar array</li> </ul> <p><b><u>Staff Accommodation Expansion (4104m<sup>2</sup>)</u></b></p> <ul style="list-style-type: none"> <li>• 1 student dormitory block consisting of 1 block x 6 bedrooms (shared kitchen &amp; lounge) each</li> <li>• 6 bachelor accommodation blocks consisting of 2 double bed and 4 single bed units</li> <li>• 3 managers houses consisting of 2 bedrooms.</li> </ul> <p><i>That will necessitate clearance of 13970 square metres (1.39 ha) of indigenous vegetation</i></p>
<p><b><u>Activity 5 of GNR985:</u></b> <i>“The development of resorts, lodges, hotels, tourism or hospitality facilities that sleep more than 15 people.”</i></p>	<p><i>The development of a tented camp within the Northern Cape Province, located in the Tswalu Kalahari Reserve (a protected area identified in terms of NEMPAA), that will sleep a total of 38 people (including staff and guests)</i></p>
<p><b><u>Activity 12 of GNR985:</u></b> <i>“The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.”</i></p>	<p><i>The development of a tented camp consisting of:</i></p> <p><b><u>New Camp (9866m<sup>2</sup>)</u></b></p> <ul style="list-style-type: none"> <li>• 5 individual (one bedroom) and 3 two-bedroomed tented villas.</li> <li>• A back of house area consisting of Storerooms, Office space; and a solar array</li> </ul> <p><b><u>Staff Accommodation Expansion (4104m<sup>2</sup>)</u></b></p> <ul style="list-style-type: none"> <li>• 1 student dormitory block consisting of 1 block x 6 bedrooms (shared kitchen &amp; lounge) each</li> <li>• 6 bachelor accommodation blocks consisting of 2 double bed and 4 single bed units</li> <li>• 3 managers houses consisting of 2 bedrooms.</li> </ul> <p><i>That will necessitate clearance of 13970 square metres (1.39 ha) of indigenous vegetation.</i></p>



## 2 FEASIBLE AND REASONABLE ALTERNATIVES

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

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

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

### 2.1 Legislative Background

The very consideration of a development in terms of EIA is about the consideration of alternatives related to the development. The NEMA prescribes that all environmental impact assessments, which are to be utilised in informing an application for environmental authorisation, must identify and investigate the alternatives to the activity on the environment and include a description and comparative assessment of the advantages and disadvantages that the proposed activity and feasible and reasonable alternatives will have on the environment and on the community, that may be affected by the activity. If, however, after having identified and investigated alternatives, no feasible and reasonable alternatives exist, no comparative assessment of alternatives, beyond the comparative assessment of the preferred alternative and the option of not implementing the activity, is required during the assessment phase. In this instance, the EAP managing the application must provide the competent authority/DENC with detailed, written proof of the investigation(s) undertaken and motivation indicating that no reasonable or feasible alternatives, other than the preferred alternative and the no-go option.

### 2.2 Definition of Alternatives

**“Alternatives”**, in relation to a proposed activity, means different means of meeting the general purposes and requirements of the activity, which may include the following types of alternatives:

- The property on which, or location where, it is proposed to undertake the activity;
  - Refers to both alternative properties as well as alternative sites on the same property.

- The type of activity to be undertaken;
  - Provision of public transport rather than increasing the capacity of roads.
- The design or layout of the activity;
  - Different architectural and or engineering designs.
  - Consideration of different spatial configurations of an activity on a particular site (Site Layout)
- The technology to be used in the activity;
  - Option of achieving the same goal by using a different method or process.
- The operational aspects of the activity;
- Demand
  - When a demand for a certain product or service can be met by some alternative means, i.e. the demand for electricity/storm water controls could be met by supplying more energy or using energy more efficiently by managing demand.
- Input
  - Input alternatives for projects that may use different raw materials or energy sources in their processes.
- Routing
  - Alternative routes generally applies to linear developments (pipeline routes).
- Scheduling and Timing
  - Where a number of measures might play a part in an overall programme, but the order in which they are scheduled will contribute to the overall effectiveness of the end result.
- Scale and Magnitude
  - Activities that can be broken down into smaller units and can be undertaken on different scales, i.e. for a housing development there could be the option 10, 15 or 20 housing units.
- The option of not implementing the activity (no-go option).
  - The no-go option is taken to be the existing rights on the property, and this includes all the duty of care and other legal responsibilities that apply to the owner of the property. All the applicable permits must be in place for a land use to be an existing right.

The key criteria when identifying and investigating alternatives are that they should be “feasible” and “reasonable”. The “feasibility” and “reasonability” of and the need for alternatives must be determined by considering, *inter alia*, (a) the general purpose and requirements of the activity, (b) need and desirability, (c) opportunity costs, (d) the need to avoid negative impact altogether, (e) the need to minimise unavoidable negative impacts, (f) the need to maximise benefits, and (g) the need for equitable distributional consequences. The (development) alternatives must be socially, environmentally, and economically sustainable. They must also aim to address the key significant impacts of the proposed residential development by maximising benefits and avoiding or minimising the negative impacts.

### **2.3 Identification and Investigation of Alternatives Including Motivations**

Given the aforementioned definition and description of alternatives, alternatives for investigation in this assessment were first identified by considering whether the different types of alternatives could meet the general purposes and requirements of upgrading an existing private , and subsequently constitute a comparable activity. Thereafter, the need for an alternative was assessed to determine whether it warranted further investigation. Certain alternatives could not be considered as legitimate alternatives for comparable assessment from the onset of the assessment process because they apply to aspects/parts of the proposed activity. Consequently, they were considered throughout the assessment process to address site-specific impacts when the need for mitigation was identified by the relevant

specialist studies.

### 2.3.1 Purpose and Requirements of the proposed guest and staff accommodation development and expansion at Tswalu

The purpose for developing a new tented camp and expanding Tswalu's existing staff accommodation (a right that the owners have) would be to offer an alternative and varied guest experience so as to ensure generation of income whilst at the same time conserving the ecology and integrity of the land. Further to this the expansion of the staff area will accommodate Tswalu's staff needs and requirements.

#### Alternative No. 1: Property and Location Purpose and Requirements

The purpose of the proposed activity, including the development of a new tented camp and expansion of the current staff quarters is to ensure generation of income whilst at the same time conserving the ecology and integrity of the land. The construction and expansion is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively. This can only occur within certain designated areas within the Reserve. Ecologically the sites chosen (if mitigation measures are properly implemented), is well suited for the construction of the upgrade components. Given that operational efficiency, sense of place and what the guests needs are, to suggest an alternative site in an area that may exhibit a higher ecological sensitivity would be unreasonable.

#### Methodology

NA

#### Criteria used to investigate and assess alternatives

NA

#### Reasoned explanation why an alternative was or was not found to be reasonable or feasible

It would be *unreasonable* to propose an alternative location in terms of neighbouring properties due to ownership of the land. Furthermore, due to logistical issues the development must be located close to the existing Tswalu Airstrip and adjacent to the current Tswalu staff area. In addition, ecologically, the sites chosen are well suited for the construction of the additional staff accommodation and new tented camp. To suggest an alternative site in an ecologically sensitive area would be *unreasonable*.

#### Alternative No. 2: Type of Activity

##### Purpose and Requirements

The specific nature of this activity, development of a new tented camp and expansion of the current staff quarters so as to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, whilst at the same time conserving the ecology and integrity of the land, does **not** afford alternative types of activities that can meet the same purposes or requirements, specifically providing varied and additional accommodation.

#### Methodology

NA

#### Criteria used to investigate and assess alternatives

NA

#### Reasoned explanation why an alternative was or was not found to be reasonable or

**feasible**

The purpose and requirements of developing a new tented camp and expansion of the current staff quarters, to ensure generation of income and to improve the efficiency and live-in conditions for staff whilst at the same time conserving the ecology and integrity of the land, cannot be achieved by using an alternative type of activity. Consequently, this type of alternative is not applicable.

**Alternative No. 3: Design and Layout**

**Purpose and Requirements**

The purpose and requirements of the development of a new tented camp and expansion of the current staff quarters is to ensure generation of income whilst at the same time conserving the ecology and integrity of the land. The construction and expansion is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **can** be achieved using different architectural and or engineering designs, and by considering different spatial configurations of the development on the particular site/s (Site Layout).

**Methodology**

Specialist studies were undertaken during the assessment process to identify potential impacts on the environment and community/neighbours, and recommend appropriate mitigations to avoid or minimise negative impacts or enhance beneficial impacts. Those mitigations informed the final and preferred Site Layout (Appendix A, Annexure B).

**Criteria used to investigate and assess alternatives**

The Site Layout/s were designed to take cognisance of and address specific impacts. The assessment of the specific impacts associated with the Site Layout/s included a study of the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources, and the degree to which the impact can be mitigated (Section D 6).

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

Whilst alternative designs and or site layouts are reasonable, particularly given the need to avoid negative impacts or to minimise unavoidable negative impacts, the extent of those changes is restricted by the site itself and surrounding ecological sensitivities. Furthermore, the changes are informed by the findings contained in the relevant specialist studies. Consequently, this type of alternative had to be considered throughout the assessment process and evolve incrementally as and when the impacts were identified by the relevant specialist studies. The final and preferred site layout is an outcome of the aforementioned process or the 'end result'. The fact that it could not be predicted from the onset of the assessment process made it impossible to propose as an alternative for assessment.

**Alternative No. 4: Technology**

**Purpose and Requirements**

The purpose and requirements of the development of a new tented camp and expansion of the current staff quarters is to ensure generation of income whilst at the same time conserving the ecology and integrity of the land. The construction and expansion is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **can** be met by this type of alternative, specifically by using different technologies (methods or processes during the construction)

**Methodology**

Various technologies and methods available for the development of a new tented camp and

expansion of the current staff quarters were evaluated by the project team. Specialist studies were undertaken during the assessment process to identify potential impacts on the environment and community, and recommend appropriate mitigations to avoid or minimise negative impacts or enhance beneficial impacts. Those mitigations informed the final and preferred technologies and materials to be used.

**Criteria used to investigate and assess alternatives**

Recommendations made regarding the utilisation of proper and suitable technologies to construct the new camp and staff accommodation were undertaken to address specific impacts. The assessment of the specific impacts associated with the site layout included a comparison of the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources, and the degree to which the impact can be mitigated

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

The purpose and requirements of the proposed construction *can* be achieved by using this type of alternative, ‘technology’. Consequently, this type of alternative is applicable. In addition, alternative technologies were sought throughout the assessment process to address specific impacts identified by the specialist studies, in the manner described in the above-mentioned alternative for ‘Design and Layout (Alternative No. 3).

**Alternative No. 5: Operational Aspects**

**Purpose and Requirements**

Alternative operational aspects (procedures) *cannot* meet the purpose for the development of a new tented camp and expansion of the current staff quarters so as to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively.

**Methodology**

NA

**Criteria used to investigate and assess alternatives**

NA

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

Comparative assessment of alternative operational aspects (procedures) of existing camps and staff accommodation, against the development of new infrastructure highlight that alternative operational procedures could not reasonably achieve the same operational efficiency requirements that the construction of new accommodation would.

**Alternative No. 6: Demand**

**Purpose and Requirements**

The purpose and requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and *cannot* be met by this type of alternative, specifically by reducing the demand (or need) for the proposed activity. The owner is entitled to develop additional accommodation (within reason) and this right cannot be unreasonably withheld.

**Methodology**

NA

**Criteria used to investigate and assess alternatives**

NA

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

The purpose requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively and **cannot** be achieved by using this type of alternative, 'demand'. Consequently, this type of alternative is not applicable. Nevertheless, alternative means were sought throughout the assessment process to address specific impacts identified by the specialist studies, in the manner described in the above mentioned alternative for 'Design and Layout (Alternative No. 3). For example, ways of reducing the demand for electricity were suggested by using energy saving devices.

**Alternative No. 7: Input****Purpose and Requirements**

The purpose and requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **can** be met using different raw materials or energy sources.

**Methodology**

NA

**Criteria used to investigate and assess alternatives**

NA

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

However, the need for alternative inputs (to address site-specific impacts) cannot be predicted at the onset of the assessment process and is, therefore, not reasonable. However, alternative raw materials or energy sources were sought throughout the assessment process to address specific impacts identified by the specialist studies, in the manner described in the above-mentioned alternative for 'Design and Layout (Alternative No. 3).

**Alternative No. 8: Routing****Purpose and Requirements**

The purpose and requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **cannot** be met using an alternative route. This specific type of alternative generally applies to linear developments, such as pipeline routes.

**Methodology**

NA

**Criteria used to investigate and assess alternatives**

NA

**Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

This type of alternative, 'Routing', is not applicable. Nevertheless, alternative routes for internal services were sought throughout the assessment process to address specific

impacts identified by the specialist studies, in the manner described in the above-mentioned alternative for 'Design and Layout (Alternative No. 3).

#### **Alternative No. 9: Scheduling and Timing**

##### **Purpose and Requirements**

The purpose and requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **can** be met using alternative scheduling and timing, specifically changing the order in which activities are scheduled to contribute to the overall effectiveness of the end result.

##### **Methodology**

NA

##### **Criteria used to investigate and assess alternatives**

NA

##### **Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

However, the need for alternative scheduling or timing (to address site-specific impacts) cannot be predicted at the onset of the assessment process and is, therefore, not reasonable. However, alternative scheduling or timing was sought throughout the assessment process to address specific impacts identified by the specialist studies, in the manner described in the above-mentioned alternative for 'Design and Layout (Alternative No. 3). For example, rehabilitation should not be left until the end of construction, etc.

#### **Alternative No. 10: Scale and Magnitude**

##### **Purpose and Requirements**

The purpose and requirements of developing a new tented camp and expanding the current staff quarters is fundamentally to offer an alternative and varied guest experience and also to improve the efficiency and live-in conditions for staff, respectively, and **cannot** be met using an alternative scale or magnitude, specifically a smaller physical footprint.

##### **Methodology**

NA

##### **Criteria used to investigate and assess alternatives**

NA

##### **Reasoned explanation why an alternative was or was not found to be reasonable or feasible**

This type of alternative, 'Scale and Magnitude', is not applicable. The provision of adequate and varied accommodation, as well as the fact that the proposed size of the units is minimal, such that they cannot be reasonably reduced without compromising the required conditions that are sought by the owners and potential guests, is limiting, and cannot be marginalised.

#### **Alternative No. 11: No-go Option**

The option of not implementing the activity (no-go option), was used as the benchmark against which all impacts associated with the proposed development were assessed.

## **2.4 Conclusion**

Some types of alternatives were not applicable to the nature of the proposed activity, including its purpose or requirements ('Type of Activity', 'Technology', 'Demand', 'Routing' and 'Scale and Magnitude'). A range of different types of alternatives did exist, but not all warranted investigation ('Property and Location', 'Design and Layout', 'Input', 'Scheduling

and Timing’). Based on the findings of the investigation that was undertaken (of ‘Operational Aspects’) and reasoned motivation there was no verifiable evidence for the existence of any reasonable and feasible alternative(s) other than the preferred option and the no-go option, at the time of this environmental impact assessment process. Consequently, no reasonable and feasible alternatives other than the preferred option and the no-go option were identified, described, and assessed. Having said that, alternatives, specifically modifications and changes to activities in order to prevent and/or mitigate environmental impacts, were considered throughout the assessment process. The development proposal was amended in an incremental manner throughout the EIA process to address impacts and issues, as and when the need for mitigation was identified.

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

### 3 PHYSICAL SIZE OF THE ACTIVITY

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

**Tented Camp Alternative:**

Alternative A1<sup>1</sup> (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Size of the activity:**

9 866m <sup>2</sup>
m <sup>2</sup>
m <sup>2</sup>

**Staff Accommodation Expansion Alternative:**

Alternative A1<sup>2</sup> (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Size of the activity:**

4 104m <sup>2</sup>
m <sup>2</sup>
m <sup>2</sup>

or, for linear activities:

**Alternative:**

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

**Length of the activity:**

m
m
m

### 4 SITE ACCESS

Does ready access to the site exist?

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

<del>YES</del>	NO
m	

Describe the type of access road planned:

Access will be via an existing road network. See map of access inserted below.

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

<sup>1</sup> “Alternative A..” refer to activity, process, technology or other alternatives.

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



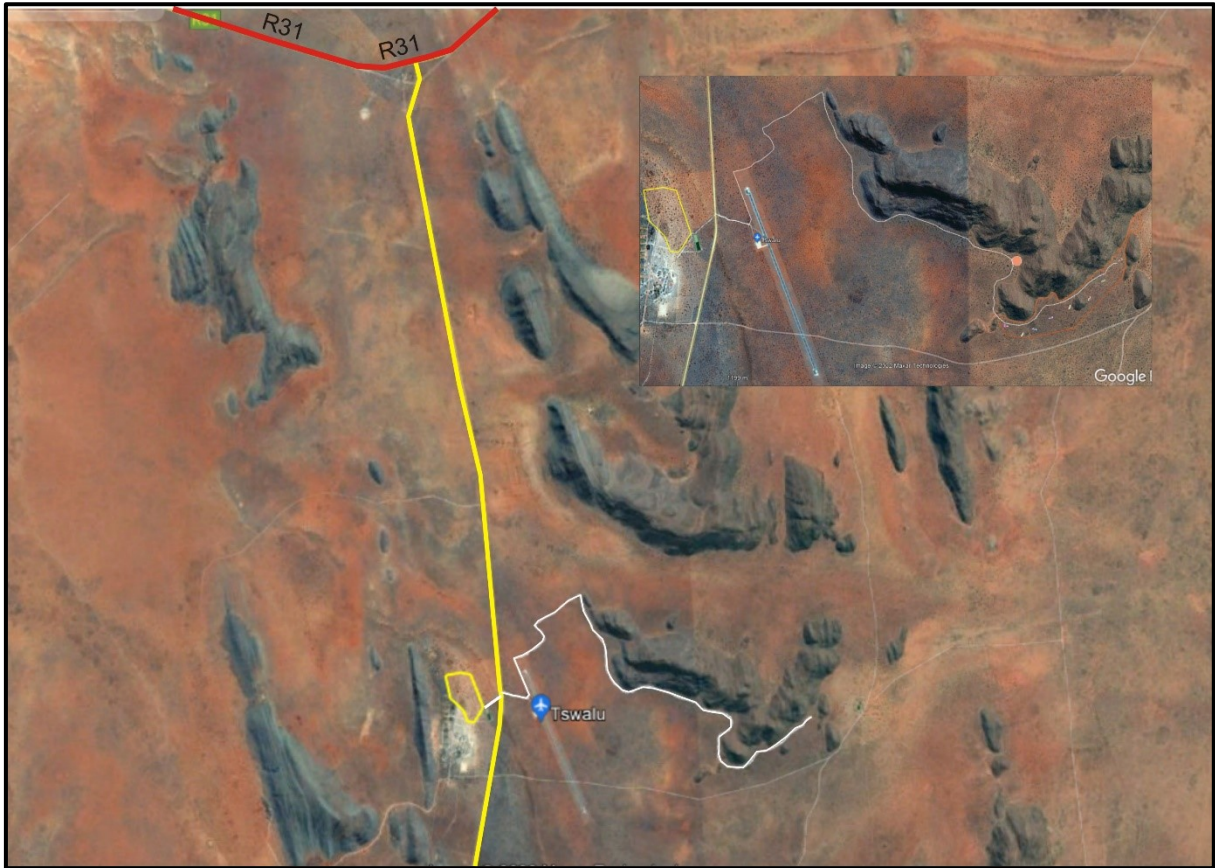


Figure 1: Aerial image indicating access route to the proposed tented camp and staff accommodation expansion area.

## 5 LOCALITY MAP

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

- an 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. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

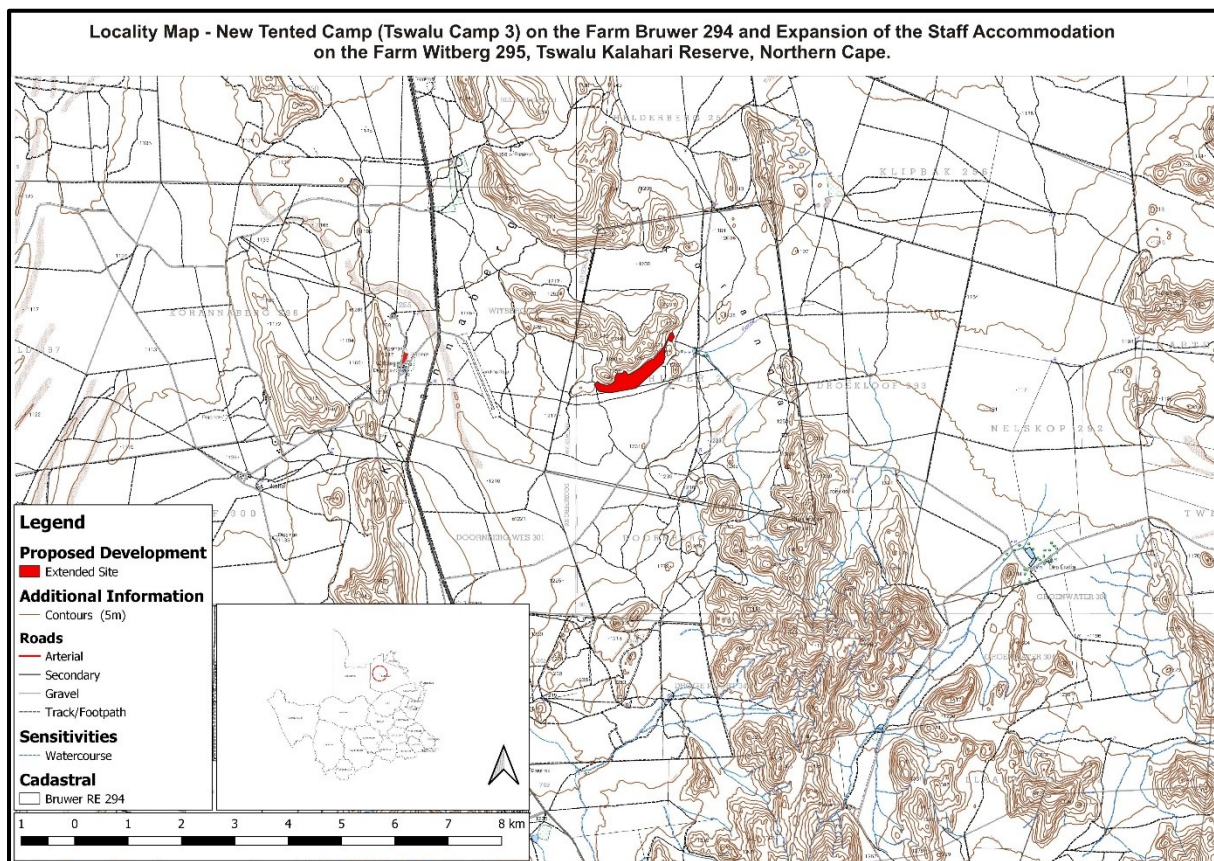


Figure 2: Locality Map.

## 6 LAYOUT/ROUTE PLAN

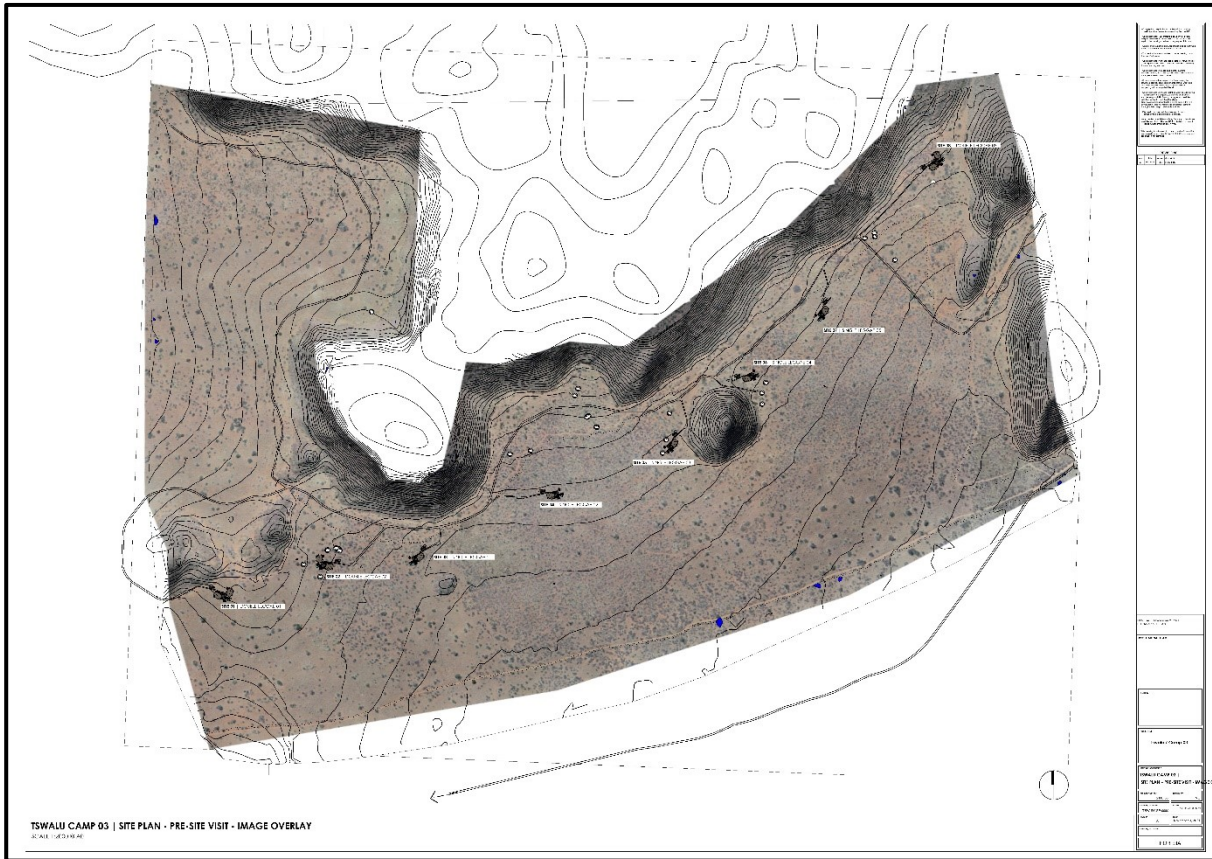
A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;

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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.



**Figure 3: Layout for the new tented camp.**

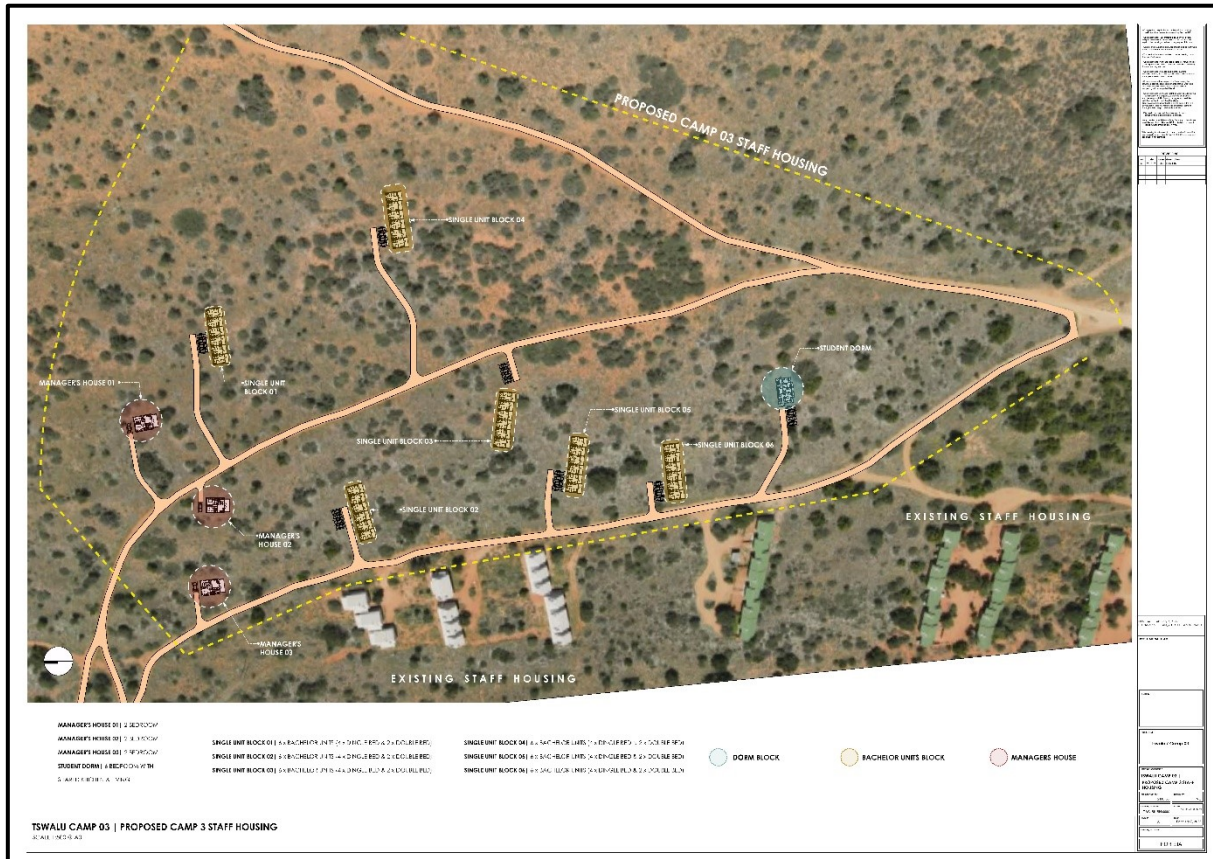


Figure 4: Layout for the staff accommodation expansion.

## 7 SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map 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 DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

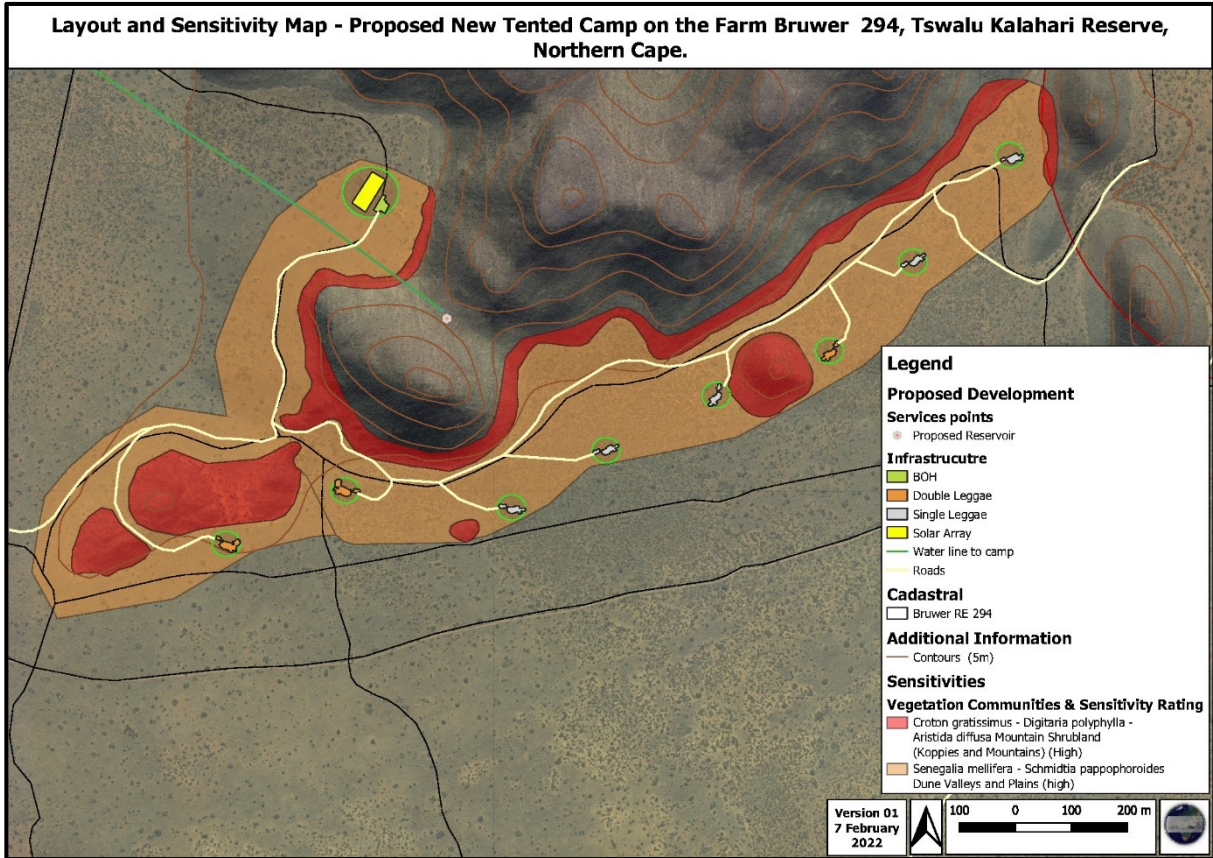


Figure 5: Sensitivity map for the new tented camp

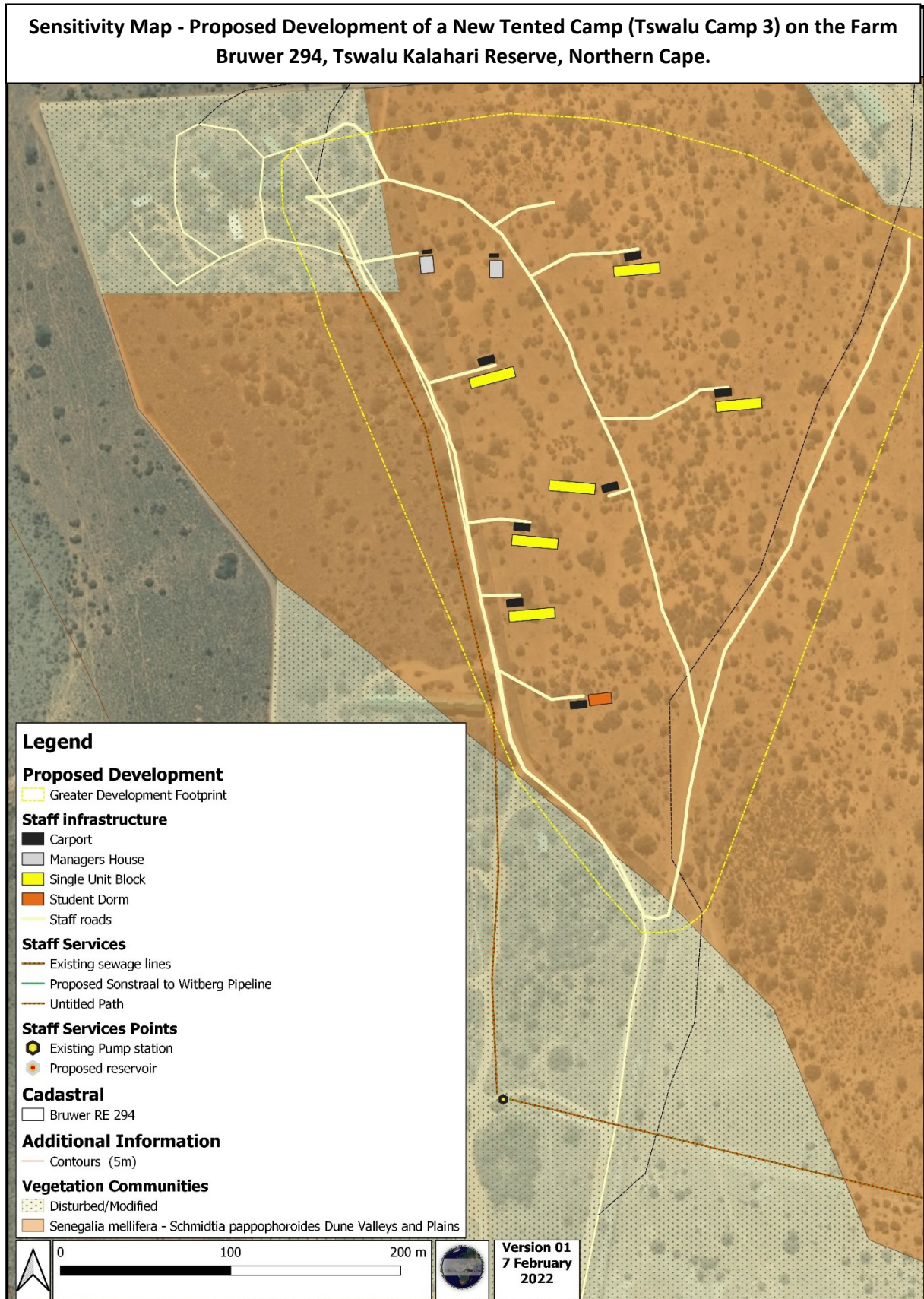


Figure 6: Sensitivity map for the staff accommodation expansion

## 8 SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable. **See Appendix B**

## 9 FACILITY ILLUSTRATION

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

## 10 ACTIVITY MOTIVATION

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

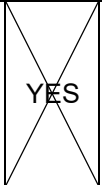
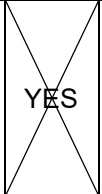
<b>Is the activity permitted in terms of the property's existing land use rights?</b>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Please explain
<p>The study area within which the proposed activity is to take place is classified as being situated within a <b>Protected Area</b> (PA) by the Northern Cape Critical Biodiversity Assessment (CBA). PA's are recognised entities in the Protected Areas Act (PAA, No. 57 of 2003) and include South African National Parks, Northern Cape Provincial Nature Reserves and Municipal Reserves amongst others. The guidelines for PA's in the various bioregional plans in South Africa recommend that these be treated in the same way as CBA's, which means that these areas are to be maintained in their natural state with limited or no biodiversity loss. Any development should be carried out under the provisions of the National Environmental Management Act (NEMA, Act 107 of 1998) and the PAA. The recommended permissible land-use is Conservation / Stewardship while Low Impact Tourism would be considered subject to an Environmental Impact Assessment (EIA).</p>			
<b>Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Please explain
<p>The Tswalu Kalahari Nature Reserve was proclaimed a Nature Reserve (Official Notice 5 of 2014) in terms of Section 23 of the National Environmental Management: Protected Areas Act 57 of 2003. The property is part of a proclaimed formal Protection Area of approximately 111 000 Ha and as such falls within an area designated for conservation and tourism within the Provincial Spatial Development Framework.</p> <p>The property has been utilized as a Nature Reserve for 26 years and is known as the Tswalu Kalahari Reserve and is the largest privately owned Reserve in South Africa, which acts as a link between other State and Local Government run conservation and tourism areas.</p>			
<b>(b) Urban edge / Edge of Built environment for the area</b>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Please explain
<p>While the property falls outside of the built or urban edge the use of a small section of the land set aside for conservation, in order to facilitate tourism will have little negative effect on the receiving environment.</p>			

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<p><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></p>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 2em; font-weight: bold;">X</span> </div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 1.2em; font-weight: bold;">NO</span> </div>	Please explain
<p>The proposed activity falls neatly within the ambit of the Local SDF and IDP.</p> <ul style="list-style-type: none"> <li>• The hospitality sector traditionally provides significant job training.</li> <li>• The existing Game Reserve already contributes significantly to job creation and training by employing over 200 full time employees which will increase to 270 employees when the new Camp is operational.</li> <li>• Tswalu funds a free Health Care Centre for any member of the greater community. This clinic provides professional health care to a community with very little access to such facilities, at present providing health care for approximately 400 persons per month. The impact of this free and comprehensive Health Care cannot be overstated.</li> <li>• Tswalu inhabitants' children have access to an Early Childhood development Centre and adults have access to the companies Adult Basic Education Training facility (for basic literacy and skills development). In addition, the Tswalu Academy provides for training of people entering both the hospitality and security/wildlife job market.</li> <li>• Tswalu also operates a security team that apart from providing security for the Tswalu Kalahari Game Reserve, also assists in providing a security presence to the neighbouring areas and provides support for the SAPS when requested to do so.</li> <li>• The Reserve funds a number of research programs including a study on the impact of global warming on mammals, butterflies etc in the area.</li> <li>• Tswalu provides an important ecosystem service to the regional economy by creating reservoirs of biodiversity which in turn repopulate local farms with game birds, small mammals and even important vegetation.</li> <li>• The property has not been used for traditional agricultural purposes for 26 years. The granting of an environmental authorisation for this activity is desirable for the following reasons                         <ul style="list-style-type: none"> <li>○ It will enhance the community services detailed above.</li> <li>○ It will assist in increasing the profile of this remote region of the country in the South African tourism sector and will undoubtedly attract more South African travellers into the region and introduce them to the special characteristics of the Kalahari and its people.</li> <li>○ The Tswalu Kalahari Game Reserve contributes significantly to the local economy including indirectly through its development projects.</li> </ul> </li> </ul>			
<p><b>(d) Approved Structure Plan of the Municipality</b></p>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 2em; font-weight: bold;">X</span> </div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 1.2em; font-weight: bold;">NO</span> </div>	Please explain
<p>All plans for infrastructure will be submitted to the Municipality for approval.</p> <p>The rezoning and environmental authorisation and ultimately the operation of the proposed new tented camp and associated staff accommodation will not necessitate any additional services; electricity will be derived from a solar installation; all other services are provided for and fall within the allowances allocated to the Tswalu Kalahari Game Reserve.</p>			



BASIC ASSESSMENT REPORT

<p><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></p>		<p>NO</p>	<p>Please explain</p>
<p>The study area within which the proposed activity is to take place is classified as being situated within a <b>Protected Area</b> (PA) by the Northern Cape Critical Biodiversity Assessment (CBA). PA's are recognised entities in the Protected Areas Act (PAA, No. 57 of 2003) and include South African National Parks, Northern Cape Provincial Nature Reserves and Municipal Reserves amongst others. The guidelines for PA's in the various bioregional plans in South Africa recommend that these be treated in the same way as CBA's, which means that these areas are to be maintained in their natural state with limited or no biodiversity loss. Any development should be carried out under the provisions of the National Environmental Management Act (NEMA, Act 107 of 1998) and the PAA. The recommended permissible land-use is Conservation / Stewardship while Low Impact Tourism would be considered subject to an Environmental Impact Assessment (EIA).</p>			
<p><b>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></p>		<p>NO</p>	<p>Please explain</p>
<p>The proposed activity falls neatly within the ambit of the Local SDF and IDP.</p> <ul style="list-style-type: none"> <li>• The hospitality sector traditionally provides significant job training.</li> <li>• The existing Game Reserve already contributes significantly to job creation and training by employing over 200 full time employees which will increase to 270 employees when the new Camp is operational.</li> <li>• Tswalu funds a free Health Care Centre for any member of the greater community. This clinic provides professional health care to a community with very little access to such facilities, at present providing health care for approximately 400 persons per month. The impact of this free and comprehensive Health Care cannot be overstated.</li> <li>• Tswalu inhabitants' children have access to an Early Childhood development Centre and adults have access to the companies Adult Basic Education Training facility (for basic literacy and skills development). In addition, the Tswalu Academy provides for training of people entering both the hospitality and security/wildlife job market.</li> <li>• Tswalu also operates a security team that apart from providing security for the Tswalu Kalahari Game Reserve, also assists in providing a security presence to the neighbouring areas and provides support for the SAPS when requested to do so.</li> <li>• The Reserve funds a number of research programs including a study on the impact of global warming on mammals, butterflies etc in the area.</li> <li>• Tswalu provides an important ecosystem service to the regional economy by creating reservoirs of biodiversity which in turn repopulate local farms with game birds, small mammals and even important vegetation.</li> <li>• The property has not been used for traditional agricultural purposes for 26 years. The granting of an environmental authorisation for this activity is desirable for the following reasons             <ul style="list-style-type: none"> <li>○ It will enhance the community services detailed above.</li> <li>○ It will assist in increasing the profile of this remote region of the country in the South African tourism sector and will undoubtedly attract more South African travellers into the region and introduce them to the special characteristics of the Kalahari and its people.</li> <li>○ The Tswalu Kalahari Game Reserve contributes significantly to the local economy including indirectly through its development projects.</li> </ul> </li> </ul>			

BASIC ASSESSMENT REPORT

<p><b>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></p>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p>As above.</p>			
<p><b>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>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p>The rezoning and environmental authorisation and ultimately the operation of the proposed new tented camp and associated staff accommodation will not necessitate any additional services; electricity will be derived from a solar installation; all other services are provided for and fall within the allowances allocated to the Tswalu Kalahari Game Reserve.</p> <p>Provision of services is completely in house and off-grid with electricity being sourced from a solar system, water from boreholes, sewerage and waste water through septic tanks and french drains and access via internal roads. Tswalu Kalahari Reserve has its own waste recycling facility where waste is sorted and recycled. Copy of Engineering Services Report attached <b>as Annexure I.</b></p>			
<p><b>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>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p><b>Is this project part of a national programme to address an issue of national concern or importance?</b></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<p>Please explain</p>
<p>No this is a private enterprise. However the positive effects emanating from this activity will go a long way to addressing issues of conservation, education and poverty relief.</p>			

BASIC ASSESSMENT REPORT

<p><b>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>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p>The Tswalu Kalahari Reserve exceeds 111 000 Ha and is surrounded largely by stock farming areas with large iron ore and manganese mines situated to the east and south-east. The Development Area (area to be utilized as a Consent Use Area for Tourism purposes consists of low closed shrubland with a footprint of less than 3 hectares. The area consists partially of rocky mountain slope and bushveld with dune and sandy loam soil formations. There are no threatened species within the Development Area.</p> <p>The existing area is part of the Tswalu Kalahari Game Reserve with the Development Area being totally undeveloped.</p> <p>The environment consists of dune plains edged by rocky mountains. The surrounding area consists of flat to slightly undulating plains characterized by deep sands and dotted with relatively steep rocky hills.</p> <p>The Development Area forms part of the Tswalu Kalahari Protected Area with a footprint of less than 3 Ha in a total area of 111 000 Ha</p>			
<p><b>Is the development the best practicable environmental option for this land/site?</b></p>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p>The sites chosen for the development are located within the Tswalu Kalahari Reserve. While other possible sites exist, the sites ultimately chosen are best for this specific activity. The no go option would have consequences for the land owner that might result in the entire conservation area not being properly looked after .The small sacrifice made outweighs the loss of a small section of conservation land.</p>			
<p><b>Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b></p>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<p>Please explain</p>
<p>The socio economic knock on as well as the huge boost that this project will give to the tourism and ultimately the running and conservation of the property out weigh the negative impacts. Moreover the negative impacts can be more than adequately mitigated.</p>			
<p><b>Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<p>Please explain</p>
<p><b>Will any person's rights be negatively affected by the proposed activity/ies?</b></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<p>Please explain</p>
<p><b>Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<p>Please explain</p>
<p>The activity is not located within or near the urban edge.</p>			
<p><b>Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</b></p>	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<p>Please explain</p>

## BASIC ASSESSMENT REPORT

What will the benefits be to society in general and to the local communities?	Please explain
<p>The proposed activity will benefit society and the local community in general..</p> <ul style="list-style-type: none"> <li>• The hospitality sector traditionally provides significant job training.</li> <li>• The existing Game Reserve already contributes significantly to job creation and training by employing over 200 full time employees which will increase to 270 employees when the new Camp is operational.</li> <li>• Tswalu funds a free Health Care Centre for any member of the greater community. This clinic provides professional health care to a community with very little access to such facilities, at present providing health care for approximately 400 persons per month. The impact of this free and comprehensive Health Care cannot be overstated.</li> <li>• Tswalu inhabitants' children have access to an Early Childhood development Centre and adults have access to the companies Adult Basic Education Training facility (for basic literacy and skills development). In addition, the Tswalu Academy provides for training of people entering both the hospitality and security/wildlife job market.</li> <li>• Tswalu also operates a security team that apart from providing security for the Tswalu Kalahari Game Reserve, also assists in providing a security presence to the neighbouring areas and provides support for the SAPS when requested to do so.</li> <li>• The Reserve funds a number of research programs including a study on the impact of global warming on mammals, butterflies etc in the area.</li> <li>• Tswalu provides an important ecosystem service to the regional economy by creating reservoirs of biodiversity which in turn repopulate local farms with game birds, small mammals and even important vegetation.</li> <li>• The property has not been used for traditional agricultural purposes for 26 years. The granting of an environmental authorisation for this activity is desirable for the following reasons             <ul style="list-style-type: none"> <li>○ It will enhance the community services detailed above.</li> <li>○ It will assist in increasing the profile of this remote region of the country in the South African tourism sector and will undoubtedly attract more South African travellers into the region and introduce them to the special characteristics of the Kalahari and its people.</li> <li>○ The Tswalu Kalahari Game Reserve contributes significantly to the local economy including indirectly through its development projects.</li> </ul> </li> </ul>	

## 11 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

### 11.1 Prescribed Environmental Management Standards, Practices, Policies, Guidelines or Legislation

The following legislation, guidelines, departmental policies, environmental management instruments and/or other decision making instruments that have been developed or adopted by a competent authority in respect of activities associated with a development of this nature, were identified and considered in the preparation of this basic assessment report:

- Amended EIA Regulations, 2014 published in Government Notice No. R. 324, R. 325, R. 327 and R. 328 in Government Gazette No. 40772 dated 07 April 2017;
- Animal Protection Act, 1962 (Act No 72 of 1962);
- Conservation of Agricultural Resources Act, 1993 (No 43 of 1983) and the regulations dealing with declared weeds and invader plants; Constitution of the Republic of South Africa Act, 1996 (No. 108 of 1996), including section 24;
- DEA (2010), Guideline on Need and Desirability, Integrated Management Guideline Series 9, Department of Environmental Affairs (DEA), Pretoria, South Africa.
- DEA (2010), Public Participation 2010, Integrated Environmental Management Guideline Series 7, Department of Environmental Affairs, Pretoria, South Africa;
- DEA (2011), National list of ecosystems that are threatened and in need of protection. GN 1002, GG 34809, 9 December 2011.
- DEA&DP (2010), Guideline on Alternatives, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs & Development Planning (DEA&DP);
- DEAT (2002), Specialist Studies, Information Series 4, Department of Environmental Affairs and Tourism (DEAT), Pretoria;
- DWA (2007), Guideline for Developments within a Flood line (Edition 1), Department of Water Affairs and Forestry, Pretoria, South Africa;
- DWAS (2016), General Authorisation in GN No. 509 published in Government Gazette No. 40229 dated 26 August 2016;
- DWAS (2016), General Authorisation in GN No. 538 published in Government Gazette No. 40243 dated 2 September 2016;
- Mpumalanga Biodiversity Conservation Sector Plan (2014)
- National Environmental Management Act, 1998 (No 107 of 1998) including EIA Regulations, 2014 published in Government Notice No. R. 982, R. 983, R. 984 and R. 985 in Government Gazette No. 38282 dated 04 December 2014;
- National Environmental Management: Air Quality Act, 2003 (No 57 of 2003) including the list of activities which result in atmospheric emissions published in GN No. 248 of Government Gazette No. 33064 dated 31 March 2010;
- National Environmental Management: Biodiversity Act, 2004 (No 10 of 2004);
- National Environmental Management: Waste Act, 2009 (Act No. 59 of 2009) (“NEM: WA”);
- National Forest Act, 1998 (No 84 of 1998);
- National Heritage Resources Act, 1999 (No 25 of 1999);
- National Veld and Forest Fire Act, 1998 (No 101 of 1998);
- National Water Act, 1998 (Act No. 36 of 1998), Sections 27, 28,29,30,31 and 39 (Sections dealing with General Authorisations and Water Use Licenses);
- Ferrar, A.A. & Lotter, M.C. 2007. Mpumalanga Biodiversity Conservation Plan Handbook. Mpumalanga Tourism & Parks Agency, Nelspruit.
- Haydorn, A.E.F. (2006) Rational Assessment of Development in Sensitive Environments (Ref: ENPLCRIT). Tel/Fax: (021) 887 4382. email: heydaef@adept.co.za

## 2 Legislative Context of the Proposed Activity

A review of the relevant legislation, policies and documents pertaining to the conservation and tourism sector indicate that the tented camp and staff accommodation serving and aiding the operation of the Tswalu Kalahari Nture Reserve is supported at a national, provincial and local level.

**Constitution of the Republic of South Africa Act, 1996 (No. 108 of 1996)**

Section 24 of the constitution (below) provides the foundation for environmental protection, promoting ecologically sustainable development and use of natural resources.

Section 24.

Environment. -Everyone has the right-

(a) to an environment that is not harmful to their health or well-being; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(i) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

*Importance of this legislation to the Project:*

It allows the environmental rights of all South African citizens to be upheld through the implementation of all types of projects, including conservation and tourism based projects.

**The National Environmental Management Act, 1998 (No. 107 of 1998)**

The National Environmental Management Act (NEMA) 107 of 1998 states that the State must respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the needs of previously disadvantaged communities. It states further that sustainable development requires the integration of social, economic and environmental factors in the planning, evaluation and implementation of decisions to ensure that development serves present and future generations.

*Importance of this legislation to the Project:*

The project includes listed activities (Table 6), some of which require a Basic Assessment in terms of the GN No. R 983, 2014. As amended by Government Notice No. R. 324, R. 325, R. 326, and R. 327 published in Gazette No. 40772 of 07 April 2017.

**The National Environmental Management: Biodiversity Act No. 10 of 2004**

The Act provides the protection of ecosystems and species that require national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources and the establishment and functions of the South African National Biodiversity Institute (SANBI).

*Importance of this legislation to the Project:*

The BA process for the project will involve the identification, protection and management of species, ecosystems and areas of high biodiversity value.

**National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)**

Regulates air emissions generally, including air emissions resulting from various construction activities. In this regard dust pollution is of relevance.

*Importance of this legislation to the Project:*

The project will consist of development of infrastructure. The development phase will produce dust pollution that must be controlled and kept to a minimum.

**National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)**

To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

*Importance of this legislation to the Project:*

The project will endeavor to implement the waste hierarchy principles that the Waste Act introduces, to minimise and reduce waste created from the project, whilst encouraging the recycling and reuse of any suitable waste generated to prevent increased disposal at local landfills.

**The National Heritage Resource Act No. 25 of 1999**

The act requires that the responsible heritage resource authority is notified of any new development which will change the character of the site and exceeds an area of 5000 m<sup>2</sup>. The authority must be provided with the site location, details and extent of the proposed development.

*Importance of this legislation to the Project:*

A heritage impact assessment (HIA) would have to be completed as part of the BA process, if any heritage sites were identified at the project site and carried out by person/s approved by the authority.

A Heritage Impact Assessment and a Paleontological Impact Assessment study has been undertaken.

**12 WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT**

**a) Solid waste management**

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

YES	NO
4m <sup>3</sup>	

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

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

The design and construction of this development is modular and the entire structure will largely be prefabricated off-site and then erected on-site. The anticipated solid waste will thus be minimal but where solid waste is produced it will be transported by the principle Contractor to the Upington Landfill site after being sorted and stored at the Reserves' waste sorting facility nearby.

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



**BASIC ASSESSMENT REPORT**

There is a waste sorting and recycling facility on the Reserve. Any solid waste is sorted/processed into recyclable waste, composting and unrecyclable waste. The unrecyclable waste from Construction is transported to the Municipal Landfill site in Upington while the waste from the operational phase will be transported to the Kuruman landfill site.

Will the activity produce solid waste during its operational phase?

<del>YES</del>	<del>NO</del>
0.822m <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 is transported to the Reserves centralised waste sorting and processing facility at Witberg. At this site, all recyclable materials are recovered and packaged for transport to recycling partners. The food waste is composted and the remaining unrecyclable material is transported to Landfill.

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

Kuruman (Ga-Segonyane Local Municipality)

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

N/A

*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	<del>NO</del>
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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	<del>NO</del>
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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	<del>NO</del>
-----	---------------

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

m<sup>3</sup>

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

YES	<del>NO</del>
-----	---------------

*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	<del>NO</del>
-----	---------------

If YES, provide the particulars of the facility:

Facility name:		
Contact person:		
Postal address:		
Postal code:		
Telephone:	Cell:	
E-mail:	Fax:	

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

Treated water emanating from the waste water treatment plant on site will be reused for irrigation.

**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	<del>NO</del>
YES	<del>NO</del>

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:

**Construction phase:**

During the initial phase of the construction period chemical toilets will be provided for all construction staff. A registered service provider will be engaged to ensure that there is compliance with all relevant health and safety standards both in terms of operation and disposal. Chemical toilets will be regularly serviced and the effluent removed from site to a registered disposal facility.

The installation of a sanitation system is programmed to commence early in the construction phase. It is anticipated that sanitation during the greater part of the construction phase will be handled by the permanent sanitation system that will be used during the operational phase.

**Operational phase:**

Numerous alternatives have been investigated with regards to the treatment and disposal of effluent. Grey and rain water capture will be implemented.

**Sanitation and Waste:**

Sanitation and waste related activities will be carried out in full compliance with the Timbavati Management Document. In this regard the following management actions apply and will be implemented:

Contractors will dispose of all waste and litter and will clean up building sites to the satisfaction of the Reserve Manager. Waste must be properly disposed of. Production of solid waste should be minimized

**d) Waste permit**

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

YES	<del>NO</del>
-----	---------------

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?

<del>YES</del>	NO
YES	<del>NO</del>

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

Describe the noise in terms of type and level:

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BASIC ASSESSMENT REPORT

**Construction phase:**

Construction machinery graders, concrete mixers

Noise will be limited to vehicles and machinery needed during the construction phase. This impact is temporary and with proper mitigation measures in place, negligible.

**Operational phase:**

Motor vehicles

During operation the activity will create minimal noise pollution as the proposed camp is centred on conservation ethics and most activities on the property will ensure that it retains its remote natural appeal.

Activities will focus on the opportunities of the natural environment and the unique botanical value of the area. Quietness and tranquillity will be held in high regard. Noise levels will be well below the limits suggested by SANS 10103:2004 for Rural dwelling areas.

**13 WATER USE**

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

Municipal	<del>Water board (Sedibeng water)</del>	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

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

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

N/A	
YES	<del>NO</del>

## 14 ENERGY EFFICIENCY

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

Energy is available nearby from the national electricity grid. Eskom Pole – AA356/31. This line will run next to an existing gravel road to the site. See layout for detail. This is traditionally viewed as the cheapest most reliable form of energy, however in the light of the current energy crisis and the ecologically sensitive approach of the development, energy efficiency is an important design criteria.

Further to this, the intention of the preferred alternative is to ensure that the development is not dependant on electricity supplied from external sources such as ESKOM.

Alternatives investigated:

- ⇒ The use of solar (PV) power to run lights and low current appliances will be promoted, as will the installation of solar and/or a heat pump water heating system.

These alternatives have been considered based on evaluation of potential impacts. Given that the design of the buildings is based on sympathising with the natural environment, minimal amount of development related to electricity infrastructure is encouraged to reduce the impact on the environment.

To this end the preferred alternative is a combination of linkage to the current ESKOM supply and the development of an electricity generation unit within the camp. The final design of this unit is still to be advised, however systems are expected to have the following components:

- Water heating will be done using solar geyser technology (Heat capture) as well as heat pumps being installed.
- Lighting and low current appliances will be powered by a battery system charged using Solar Panels (PV)

Appliances that draw large amounts of current cannot be easily operated on a solar/battery system and will require a more robust energy supply. ESKOM will supply this.

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

Solar Power

- Solar panels that make use of basic photovoltaic cells to convert sunlight energy to electricity current which is stored into heavy duty batteries to provide lighting and power light appliances
- Solar water heaters or hybrid systems to be used in place of electric geysers

Units will be designed to allow for passive heating and cooling to reduce the need for air conditioners and heaters.

**SECTION E: 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  NO  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

**Property description/physical address:**

<b>Province</b>	Northern Cape
<b>District Municipality</b>	John Taolo Gaetsewe District Municipality
<b>Local Municipality</b>	Joe Morolong Local Municipality
<b>Ward Number(s)</b>	Ward 4
<b>Farm name and number</b>	The Farm Bruwer 294 The Farm Witberg 295
<b>Portion number</b>	
<b>SG Code</b>	C0410000000029400000 C0410000000029500000

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

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

Conservation and agriculture

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

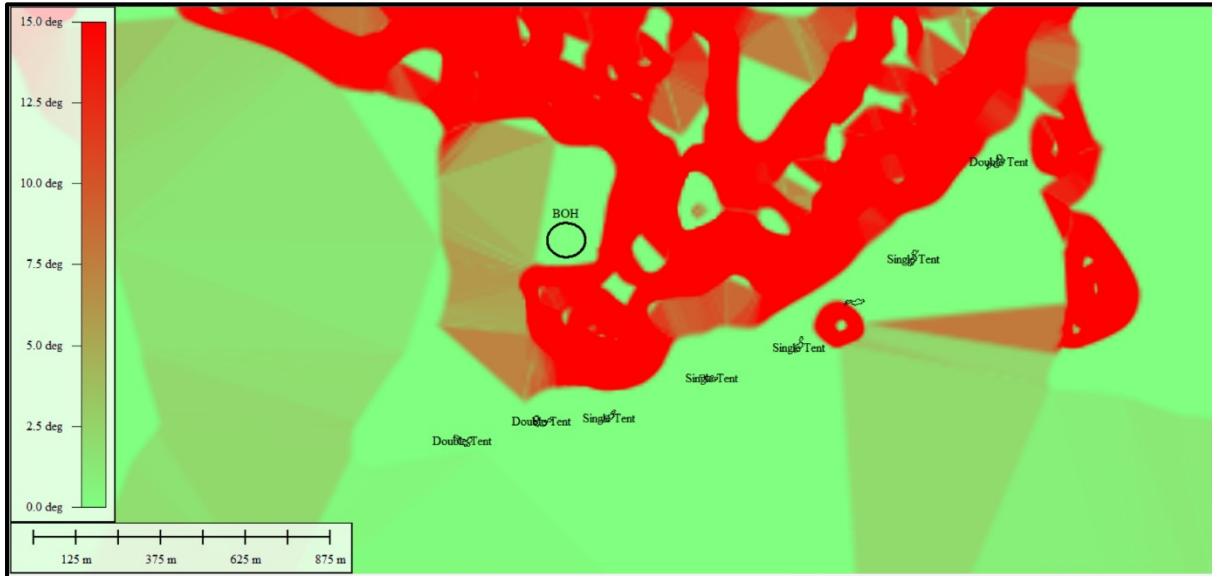
Is a change of land-use or a consent use application required?  YES  NO

**1 GRADIENT OF THE SITE**

Indicate the general gradient of the site.

**Alternative S1:**

Flat	<del>1:50 – 1:20</del>	<del>1:20 – 1:15</del>	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	------------------------	------------------------	-------------	--------------	-------------	------------------



**Figure 7: Slope and topography of the site. Note that the site is relatively flat with the degree of slope ranging from 0 to 2.5 degrees.**

**Alternative S2 (if any):**

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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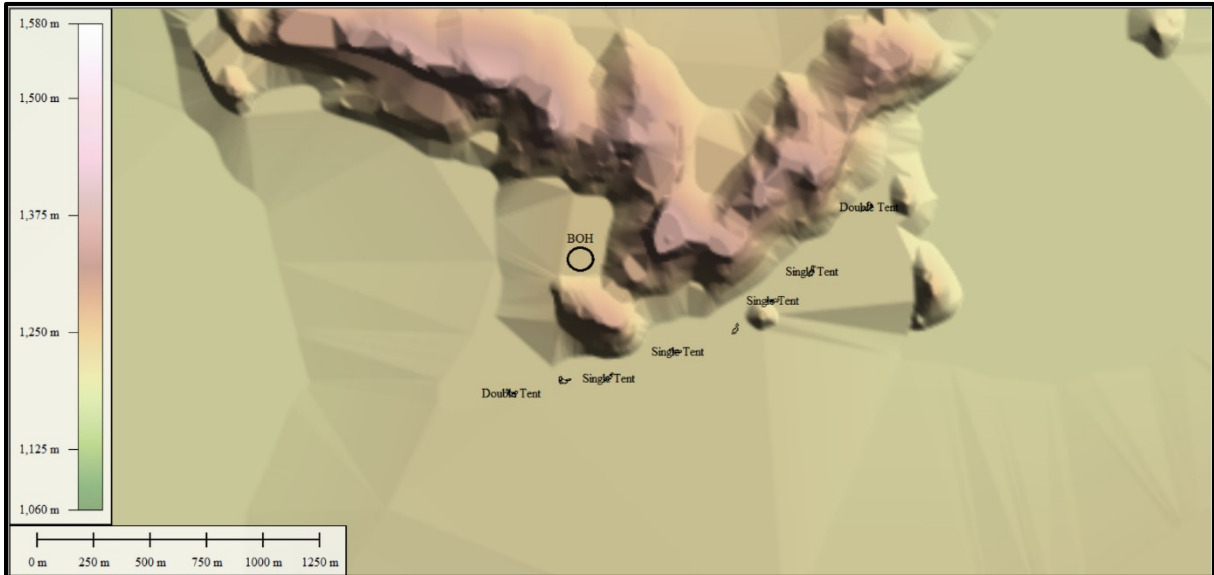
**Alternative S3 (if any):**

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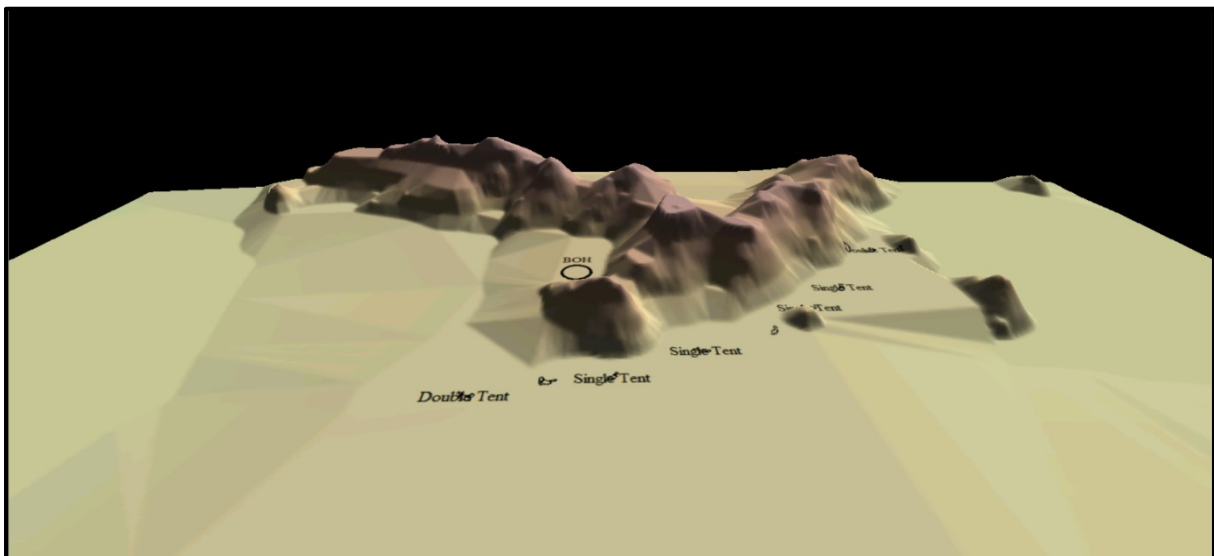
**2 LOCATION IN LANDSCAPE**

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

- |                                 |                          |                   |                          |                                  |                          |
|---------------------------------|--------------------------|-------------------|--------------------------|----------------------------------|--------------------------|
| 2.1 Ridgeline                   | <input type="checkbox"/> | 2.4 Closed valley | <input type="checkbox"/> | 2.7 Undulating plain / low hills | <input type="checkbox"/> |
| 2.2 Plateau                     | <input type="checkbox"/> | 2.5 Open valley   | <input type="checkbox"/> | 2.8 Dune                         | <input type="checkbox"/> |
| 2.3 Side slope of hill/mountain | <input type="checkbox"/> | 2.6 Plain         | <input type="checkbox"/> | 2.9 Seafront                     | <input type="checkbox"/> |
| 2.10 At sea                     | <input type="checkbox"/> |                   |                          |                                  |                          |



**Figure 8: Topography of the site and surrounding area. The site area occurs on the level to slightly undulating plains that cover most of the study area**



**Figure 9: 3D model of the site.**

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

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



Figure 10: Geological map of the area around Farms Bruwer 294. The location of the proposed project is indicated within the blue rectangle. Abbreviations of the rock types are explained in Table 2. Map enlarged from the Geological Survey 1: 250 000 map 2722 Kuruman.



**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).

<del>Natural veld in good condition<sup>E</sup></del>	<del>Natural veld with scattered aliens<sup>E</sup></del>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

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

Two vegetation communities are represented within the study area, based on distinctive vegetation structure (grassland, woodland, thicket, etc.), floristic composition (dominant and diagnostic species) and position in the landscape (mid-slopes, terrace, crest, etc.). These communities align with the two communities spatially presented in Figures 11 and 12 and are described in detail below.

***Senegalia mellifera* – *Schmidtia pappophoroides* Dune Valleys and Plains**

This vegetation community occurs on the level to slightly undulating plains that cover most of the study area. *Senegalia mellifera* – *Schmidtia pappophoroides* Plains covers an area of 38 ha, which represents 79% of the entire surveyed. Vegetation structure is Low to Short Closed Woodland becoming Open Woodland in places (*sensu* Edwards, 1983).

The low canopy is strongly dominated by the small tree *Senegalia mellifera* which grows in impenetrable clusters in places. This dominance may be attributed to the previous land-use which focussed on livestock farming where overgrazing may have led to the invasion of this species. Two additional sub-dominant canopy species are *Vachellia erioloba* and *Boscia albitrunca*, together representing the dominant emergents in the canopy. Less frequently encountered woody taxa include *Searsia burchellii*, *S. tenuinervis*, *Grewia flava*, *Croton gratissimus*, *Rhigozum trichotomum*, *Terminalia sericea*, *Ehretia alba* and *Tarchonanthus camphoratus*. Dwarf shrubs are well represented and include *Lasiosiphon polycephalus*, *Helichrysum zeyheri*, *Hirpicium gazanioides*, *Vachellia hebeclada*, *Cadaba aphylla*, *Elephantorrhiza elephantina* and *Lycium hirsutum*. The parasites *Viscum rotundifolium* and *Tapinanthus oleifolius* are frequently observed in the canopy. The dominant herbs are *Aptosimum elongatum*, *Hermannia tomentosa*, *Justicia divaricata*, *Pegolettia retrofracta* and *Sesamum triphyllum*. The climber *Pergularia daemia* is frequent in the western section of the study area. Grasses are well represented due to the above-average rains that fell during the preceding summer<sup>14</sup> and include *Aristida adscensionis*, *A. congesta* subsp. *congesta*, *Schmidtia pappophoroides*, *Pogonarthria squarrosa*, *Eragrostis lehmanniana*, *Eragrostis biflora* and *Setaria verticillata*.

A total of 61 species (82% of the entire list) was recorded from Plains Woodland, the higher species richness of the two vegetation communities in the study area. Species fidelity is very high with 42 species (69% of the community list) occurring nowhere else in the study area.

***Croton gratissimus* – *Digitaria polyphylla* – *Aristida diffusa* Mountain Shrubland (Koppies and Mountains)**

Mountain Shrubland occurs on the relatively steep slopes of the hills surrounding the study area (Figure 4). This community covers approximately 10 ha or 21% of the study area. Vegetation structure is Low Closed Shrubland (*sensu* Edwards, 1983; Figure 3). Limited sampling took place within this community as no infrastructure is planned within, with the focus placed on the areas actually adjacent to the proposed infrastructure.

Shrubs and dwarf shrubs dominate the canopy layer which contains a relatively diverse assemblage including *Croton gratissimus*, *Tarchonanthus camphoratus*, *Cadaba aphylla*, *Lantana rugosa*, *Grewia flava*, *Searsia tenuinervis*, *Ficus cordata* and *Ziziphus mucronata*. The succulent *Euphorbia avasmontana* is rare, but locally common on adjacent hills. Herbs found include *Hermannia tomentosa*, *Indigofera heterotricha*, *Cleome angustifolia*, *C. monophylla* and *Orphanthera jasminiflora*. The dominant grasses are *Digitaria polyphylla*, *Aristida diffusa*, *A. adscensionis*, *A. congesta* subsp. *congesta* and *Schmidtia pappophoroides*.

Two ferns were encountered in shady crevices, namely *Pellaea calomelanos* and *Cheilanthes hirta*. A total of 32 species (43% of the entire list) was recorded from Mountain Shrubland, the lower species richness of the two vegetation communities in the study area (Appendix 1). Species fidelity is high, with 13 species (40% of the community list) occurring nowhere else in the study area.



Figure 11: Spatial Presentation of Vegetation Communities located within the Study Area for the tented camp.

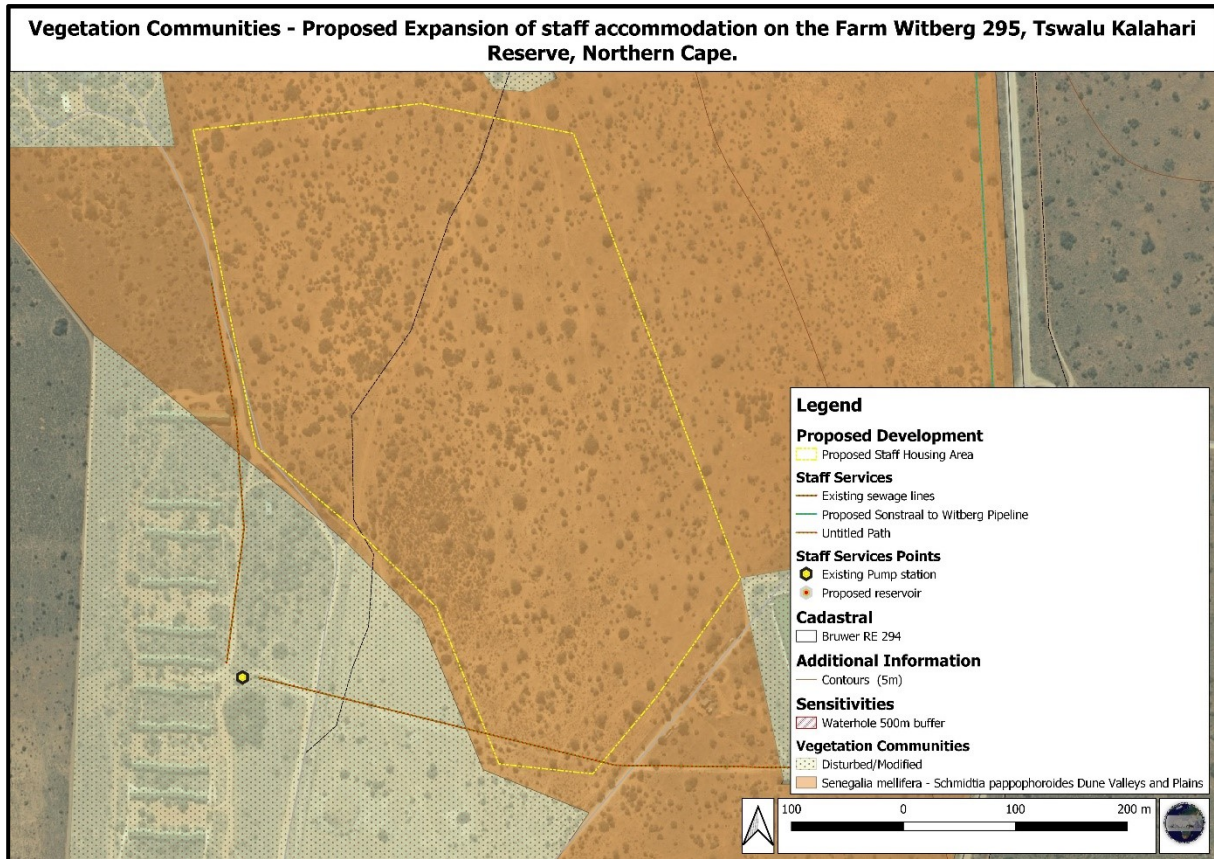


Figure 12: Spatial Presentation of Vegetation Communities located within the Study Area for the staff accommodation.

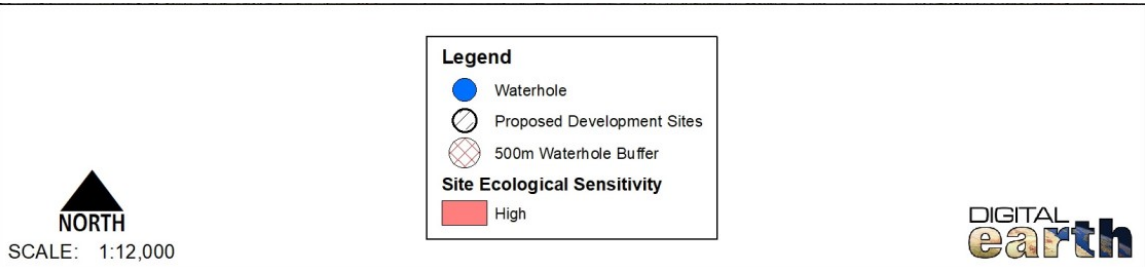
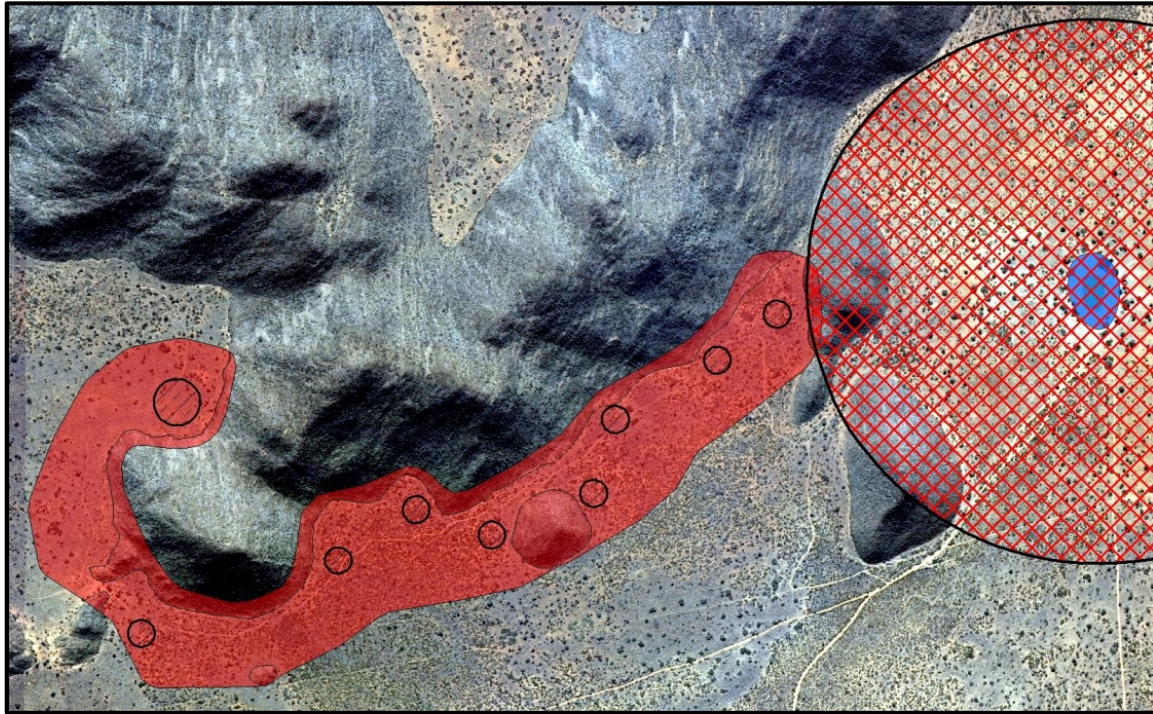
## 5 SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	<del>NO</del>	UNSURE
Non-Perennial River	YES	<del>NO</del>	UNSURE
Permanent Wetland	YES	<del>NO</del>	UNSURE
Seasonal Wetland	YES	<del>NO</del>	UNSURE
Artificial Wetland Man made watering hole/pan)	<del>YES</del>	NO	UNSURE
Estuarine / Lagoonal wetland	YES	<del>NO</del>	UNSURE

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

An artificial waterhole is located about 560 meters to the east of the study site. See Figure 6 below for reference. This artificial waterhole will not be impacted by the proposed development. However, and as a precaution, a no development buffer zone of 500m has been imposed so as to alleviate the potential disturbance on potentially sensitive fauna species and ecological processes.



**Figure 13: Proposed 500m buffer surrounding artificial waterhole.**

## 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:

<del>Natural area</del>	<del>Dam or reservoir</del>	<del>Polo fields</del>
<del>Low density residential</del>	<del>Hospital/medical centre</del>	<del>Filling station<sup>H</sup></del>
<del>Medium density residential</del>	<del>School</del>	<del>Landfill or waste treatment site</del>
<del>High density residential</del>	<del>Tertiary education facility</del>	<del>Plantation</del>
<del>Informal residential</del>	<del>Church</del>	<del>Agriculture</del>
<del>Retail commercial &amp; warehousing</del>	<del>Old age home</del>	<del>River, stream or wetland</del>
<del>Light industrial</del>	<del>Sewage treatment plant<sup>A</sup></del>	<del>Nature conservation area</del>
<del>Medium industrial<sup>AN</sup></del>	<del>Train station or shunting yard<sup>N</sup></del>	<del>Mountain, Koppie or ridge</del>
<del>Heavy industrial<sup>AN</sup></del>	<del>Railway line<sup>N</sup></del>	<del>Museum</del>
<del>Power station</del>	<del>Major road (4 lanes or more)<sup>N</sup></del>	<del>Historical building</del>
<del>Office/consulting room</del>	<del>Airport<sup>N</sup></del>	<del>Protected Area</del>

## BASIC ASSESSMENT REPORT

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 "N" are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

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:

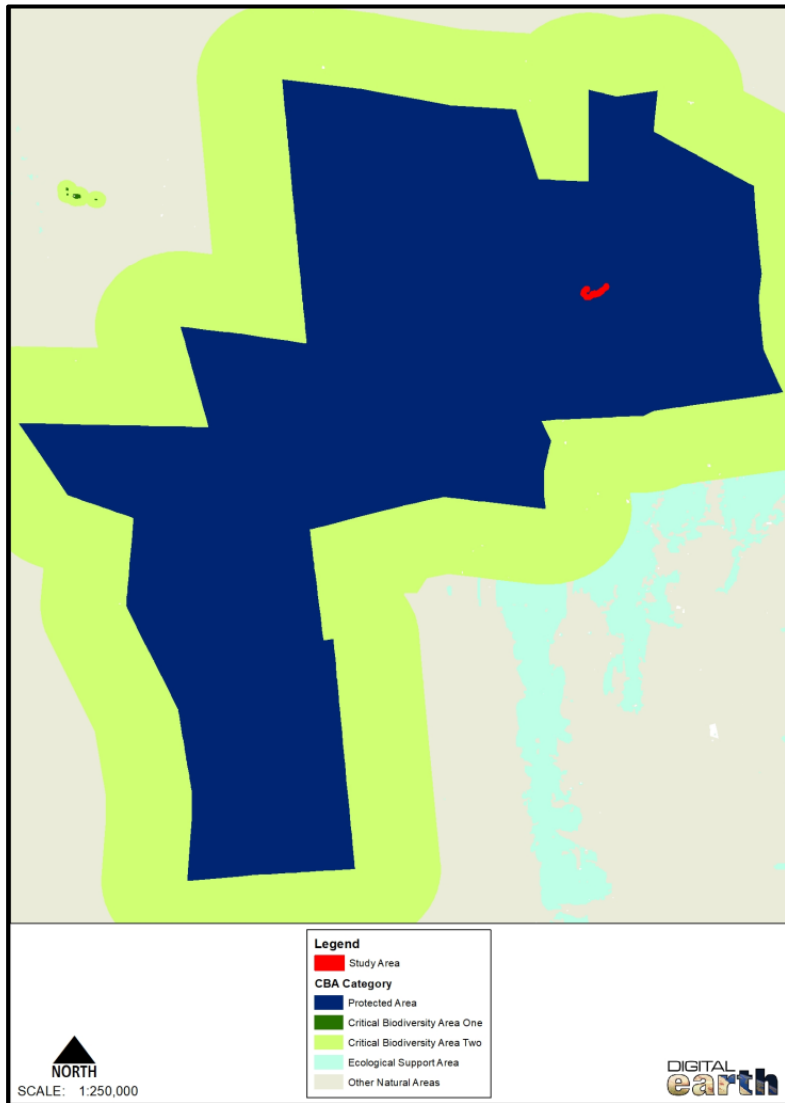
N/A

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

Critical Biodiversity Area (as per provincial conservation plan)	<del>YES</del>	NO
Core area of a protected area?	<del>YES</del>	NO
Buffer area of a protected area?	YES	<del>NO</del>
Planned expansion area of an existing protected area?	YES	<del>NO</del>
Existing offset area associated with a previous Environmental Authorisation?	YES	<del>NO</del>
Buffer area of the SKA?	YES	<del>NO</del>

**Northern Cape CBA Assessment**

The study area is classified as being situated within a **Protected Area (PA)** by the Northern Cape Critical Biodiversity Assessment (CBA)<sup>52</sup>. PA's are recognised entities in the Protected Areas Act (PAA, No. 57 of 2003) and include South African National Parks, Northern Cape Provincial Nature Reserves and Municipal Reserves amongst others. The guidelines for PA's in the various bioregional plans in South Africa<sup>53</sup> recommend that these be treated in the same way as CBA's, which means that these areas are to be maintained in their natural state with limited or no biodiversity loss. Any development should be carried out under the provisions of the National Environmental Management Act (NEMA, Act 107 of 1998) and the PAA. The recommended permissible land-use is Conservation / Stewardship while Low Impact Tourism would be considered subject to an Environmental Impact Assessment (EIA) and provided the impact area does not fall into the CBA1 category. The surrounding buffer zone is assessed as CBA 254,(Figure 7). These are areas that are known to be of high biodiversity value and, along with CBA 1's, are the most important in the Northern Cape for biodiversity outside of formally protected areas. They are also important for conserving critical biodiversity ecosystems and ecological processes, climate change adaptations and for achieving biodiversity targets. These areas should be maintained in a natural state with only minimal loss of natural habitat. The desired management objective in these areas is conservation management which includes, for example, low-intensity livestock or game farming.



**Figure 14: Northern Cape CBA Assessment of the Study Area**

**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	<del>NO</del>
Uncertain	

N/A

## BASIC ASSESSMENT REPORT

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:

An Archaeological and Heritage Impact Assessment was undertaken by Kudzala Antiquity CC in respect of the proposed establishment of eight new permanent camp units, each 500 m<sup>2</sup> in size, and associated facilities on a total proposed development area of approximately 70 hectares located on the farm Bruwer 294 RD within the Tswalu Kalahari Reserve, Northern Cape Province. The study was done with the aim of identifying sites which are of heritage significance on the identified project areas and assess their current preservation condition, significance and possible impact of the proposed action. This forms part of legislative requirements as appears in section 38 of the National Heritage Resources Act (Act No. 25 of 1999).

The survey was conducted on foot and with the aid of a motor vehicle in an effort to locate archaeological remains and historic sites, structures and features. Archival information including scrutiny of previous heritage surveys of the area formed the baseline information against which the survey was conducted.

- No significant heritage resources were documented in the proposed development areas. A total of twelve survey orientation locations were documented, sites SO 1- 12 which includes a GPS location and photographs of the landscape at that particular location. In terms of section 34 of the National Heritage Resources Act (NHRA, 25 of 1999).
- No significant buildings or structures were located. In terms of section 35 of the NHRA.
- No significant archaeological sites or features were located.
- In terms of section 36 of the NHRA, no graves or gravesites and burial grounds were located.

Further to this an inspection of the proposed staff accommodation expansion site was conducted.

During the site visit, no area of cultural heritage significance was identified on the proposed site.

However, should any sub surface deposits of artefact be found during the construction phase, development may only continue after proper implementation of the additional measures to mitigate for these possible heritage resources has been implemented.

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

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

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

YES	<del>NO</del>
YES	<del>NO</del>

## 8 SOCIO-ECONOMIC CHARACTER

### a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Unemployment rate of 38.6%

Economic profile of local municipality:

The extreme levels of unemployment and poverty in the Joe Morolong municipal area is a serious cause of concern to the Council. According to the results of Census 2011, there were only 2,609 persons living in the area were paid employees. Another 339 persons were self-employed and 24 were employers.



## BASIC ASSESSMENT REPORT

Level of education:

No schooling aged 20+:	22.8%
Higher education aged 20+:	4.1%
Matric aged 20+:	13.4%

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

What is the expected capital value of the activity on completion?	R156 270 700
What is the expected yearly income that will be generated by or as a result of the activity?	R34 264 835
Will the activity contribute to service infrastructure?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Is the activity a public amenity?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	69
What is the expected value of the employment opportunities during the development and construction phase?	R18 590 866
What percentage of this will accrue to previously disadvantaged individuals?	84%
How many permanent new employment opportunities will be created during the operational phase of the activity?	43
What is the expected current value of the employment opportunities during the first 10 years?	R175 158 461
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)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
<del>Critical Biodiversity Area (CBA)</del>	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	<p><b>Northern Cape CBA Assessment</b></p> <p>The study area is classified as being situated within a <b>Protected Area (PA)</b> by the Northern Cape Critical Biodiversity Assessment (CBA)52.</p>

BASIC ASSESSMENT REPORT

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

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	100%	<p>Two untransformed vegetation communities were surveyed within the study area, namely Plains Woodland and Mountain Shrubland. The SEI of both communities is assessed as High. Several threatened mammals were confirmed during fieldwork, and a few additional SCC are likely to occur.</p> <p>Three plants protected under either national or provincial legislature were confirmed from within the study area, two of which occur in high densities. No additional plant SCC are likely to occur. No raptor nesting sites were located during fieldwork.</p> <p>The overall predicted significance on the impact of the construction within the study area is Low, except for two specific impacts whose significance is assessed as Medium: loss or damage of plant species of conservation importance and disturbance of conservation-important fauna. These two impacts are the greatest threats presented by the proposed development on the ecological integrity of the area, particularly if the recommendations below are not implemented.</p>
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	%	

**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 unchannelled wetlands, flats, seeps pans, and artificial wetlands)		Estuary		Coastline		
	Endangered							
	Vulnerable							
	Least Threatened							
		YES	<del>NO</del>	UNSURE	YES	<del>NO</del>	YES	<del>NO</del>

**d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)**

According to the current National Vegetation Map (SANBI, 2018), two vegetation types are present within the study area, namely Kathu Bushveld on the sandy plains and Koranna-Langeberg Mountain Bushveld on the rocky slopes of the northern tip of the Korannaberg Range. Both are situated within the Eastern Kalahari Bushveld Bioregion of the Savanna Biome. Kathu Bushveld occurs on the red sand plains from Kathu in the south, through Hotazel and to the Botswana border roughly between Van Zylsrus and McCarthysrus at an altitude of between 960–1 300 mamsl. It is characterised by a medium-tall, species-poor tree layer and a diverse shrub layer. Grass cover is rainfall dependant (Mucina & Rutherford, 2006).

Typical Kathu Bushveld is characterised by open tree savanna dominated by *Vachellia erioloba* and *Boscia albitrunca*, with smaller trees including *Senegalia mellifera* subsp. *detinens* and *Terminalia sericea*. Tall shrubs include *Diospyros lycioides* subsp. *lycioides*, *Dichrostachys cinerea* subsp. *africana*, *Grewia flava*, *Gymnosporia buxifolia* and *Rhigozum brevispinosum*. Typical grasses include *Aristida meridionalis*, *Brachiaria nigropedata*, *Centropodia glauca*, *Eragrostis lehmanniana* and *Schmidtia pappophoroides*. Herbs are represented by *Acrotome inflata*, *Erlangea misera*, *Gisekia africana*, *Heliotropium ciliatum*, *Hermbstaedtia fleckii*, *Lotononis platycarpa* and *Tribulus terrestris*. According to the 2017 TKR Vegetation Map, this area is classified as *Senegalia mellifera* – *Schmidtia pappophoroides* Dune Valleys and Plains and is confined to the north-eastern portion of TKR (Figure 2).

Koranna-Langeberg Mountain Bushveld is found from the TKR at the northern tip of the Korannaberg southwards to the Langeberg and then to ridges in the vicinity of Volop. Altitude varies from 1 000–1 836 mamsl. It is characterised by rugged quartzitic and greywacke sandstone mountains with steep slopes but few cliffs. These support open shrubland with moderately open grass cover (Mucina & Rutherford, 2006).

Typical Koranna-Langeberg Mountain Bushveld is dominated by the small trees *Senegalia mellifera* subsp. *detinens*, *Boscia albitrunca*, *Ficus cordata* and *Maytenus undata*. Tall shrubs include *Ehretia rigida* subsp. *rigida*, *Euclea undulata*, *Grewia flava*, *Rhigozum obovatum*, *Searsia burchellii* and *Tarchonanthus camphoratus*. Low shrubs include *Croton gratissimus*, *Artemisia afra*, *Felicia muricata*, *Indigofera poliotetes*, *Jamesbrittenia albiflora*, *Leucas capensis*, *Melhania prostrata* and *Psiadia punctulata*. Succulents are represented by *Aloe hereroensis* var. *hereroensis*, *Euphorbia avasmontana* and *E. rectirama*. The dominant grasses in this vegetation type are *Aristida diffusa*, *Eragrostis curvula*, *Cenchrus ciliaris*, *Digitaria eriantha* subsp. *eriantha*, *Heteropogon contortus* and *Stipagrostis uniplumis*. Herbs and geophytes are represented by *Ceratotheca triloba*, *Boophone disticha*, *Cheilanthes hirta*, *Pellaea calomelanos* and *Sansevieria aethiopica*.

According to the 2017 TKR Vegetation Map, this area is classified as *Croton gratissimus* – *Digitaria polyphylla* – *Aristida diffusa* Koppies and Mountains which is dominant in the eastern portion of the TKR.

**Site-specific Ecological Importance Analysis**

An Ecological Importance analysis of the two vegetation communities represented in the study area was undertaken. The Plains Woodland and Mountain Shrubland communities support several

## BASIC ASSESSMENT REPORT

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threatened and NT fauna species, and potentially support additional species that are resident within the eastern section of TKR. Three protected plant species were also confirmed, with two of these present in significant numbers. However, all of these are species that have a global Extent of Occurrence (EOO) of < 10 km<sup>2</sup>. Conservation Importance (CI) is therefore High. Functional Integrity (FI) is only assessed as High due to the dominance of certain indigenous invasive plants that occur as a result of historical agricultural practices, as well as many tracks being present within the study area. The combination of High CI and High FI results in a Biodiversity Importance (BI) of **High**. Receptor Resilience (RR) is assessed as **Medium** as many plant species typical of arid savannas are slow growing and therefore unable to recover relatively rapidly. The integration of a High BI and a Medium RR results in a SEI of **High**.

## SECTION F: PUBLIC PARTICIPATION

### 1 ADVERTISEMENT and Notice

<b>Publication name</b>	Noordkaap Bulletin	
<b>Date published</b>	26 August 2021	
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>
	27°11'47.39"S	22°28'26.68"E
<b>Date placed</b>	31 August 2021	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

### 2 DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

The level of public participation was determined by taking into account the scale of the anticipated impacts of the proposed project, the sensitivity of the affected environment and the degree of controversy of the project, and the characteristics of the potentially affected parties. Based on the findings of the aforementioned consideration, there was no reason to elaborate on the minimum requirements of the public participation process outlined in the EIA Regulations, 2010 and 2014 or use reasonable alternative methods for people desiring of but unable to participate in the process due to illiteracy, disability or any other disadvantage. Thus the decision was taken to circulate a detailed Background Information Document and that this, with additional input from I&AP's, would be adequate in terms of engaging with the public and affected parties.

BASIC ASSESSMENT REPORT

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

**Public**

<b>Name</b>	<b>Capacity</b>	<b>Telephone</b>	<b>email</b>
Gawie Russouw / Hekroodt Russouw	Delville	072 343 1190 / 082 857 1521	<b>whatsapp only</b>
Gawie Russouw / Hekroodt Russouw	Palestine	072 343 1190 / 082 857 1521	<b>whatsapp only</b>
Gawie Russouw / Hekroodt Russouw	Der-es-Salaam	072 343 1190 / 082 857 1521	<b>whatsapp only</b>
Carel Reitz	Sandbath	0793953004	<b>whatsapp only</b>
Herman van Eeden	Zandbad	072 656 9500 / 083 537 7375	<a href="mailto:Hermanvaneeden01@gmail.com">Hermanvaneeden01@gmail.com</a>
Petrus Gousard	Deelduin	0829522685	<a href="mailto:pji.goussard@gmail.com">pji.goussard@gmail.com</a>
Derrick Nel	Nirvana	0827796794	<a href="mailto:jfn858@gmail.com">jfn858@gmail.com</a>
Henry Pearson	Driekop	0763727077	<a href="mailto:hpearon@lantic.net">hpearon@lantic.net</a>
Henry Pearson	Nelskop	0763727077	<b>hpearon@lantic.net</b>
Herman van Eeden	Groenwater	072 656 9500 / 083 537 7375	<a href="mailto:Hermanvaneeden01@gmail.com">Hermanvaneeden01@gmail.com</a>
Herman van Eeden	Bloukrans	072 656 9500 / 083 537 7375	<a href="mailto:Hermanvaneeden01@gmail.com">Hermanvaneeden01@gmail.com</a>
Johan Boshof	Septimus	078 926 3614	<a href="mailto:johbosh@webmail.co.za">johbosh@webmail.co.za</a>
Paul Burger / Jan Burger	Windhoek	072 650 7003 / 082 772 1323	<a href="mailto:paulpburger@gmail.com">paulpburger@gmail.com</a>
Trix Peens / RP Peens	Delport	078 577 1410 / 063 330 3130	<a href="mailto:trixpeens@doringpan.co.za">trixpeens@doringpan.co.za</a>
Pieter Mitton	Westbourne	0824941145	<a href="mailto:heimarimitton@gmail.com">heimarimitton@gmail.com</a>
Hannes Cronje	Middelputs	0834143837	<a href="mailto:hannes.cronje@afriamat.co.za">hannes.cronje@afriamat.co.za</a>
Henry Williams	Barton	0833179861	<b>whatsapp only</b>
Henry Williams	Oatlands East	0833179861	<b>whatsapp only</b>
Johan Kalp	Louisrus	0783880742	<a href="mailto:jfkalp7@gmail.com">jfkalp7@gmail.com</a>
Johan Kalp	Duine	0783880742	<a href="mailto:jfkalp7@gmail.com">jfkalp7@gmail.com</a>
Johan Kalp	Oatlands West	0783880742	<a href="mailto:jfkalp7@gmail.com">jfkalp7@gmail.com</a>
Phillip Williams	Loskop	0827804218	<a href="mailto:Philip@psgkuruman.co.za">Philip@psgkuruman.co.za</a>
Corrie Russouw	Thorns	0833799444	<a href="mailto:Buksencorrie@gmail.com">Buksencorrie@gmail.com</a> & <a href="mailto:Sw.rossouw@angloamerican.com">Sw.rossouw@angloamerican.com</a>
Helena Loots	Koekemoer	0832868474	<a href="mailto:thembelakhetiptip@gmail.com">thembelakhetiptip@gmail.com</a>
Sakkie Kruger	Record	0834578136	<b>whatsapp only</b>
Monta Terblanche	Randjies	0827818614	<a href="mailto:farming@live.co.za">farming@live.co.za</a>
Baggie Oosthuizen	Bontduin	0732763015	<a href="mailto:bontduin@live.com">bontduin@live.com</a>
Monta Terblanche	Klogopiets	0827818614	<a href="mailto:farming@live.co.za">farming@live.co.za</a>
Sakkie Kruger	Beslis	0834578136	<b>whatsapp only</b>
Jors Pretorius	Kameelboom	0832724613	<b>whatsapp only</b>
Hannes Kampher	Jakkalsrust	0834117704	<b>whatsapp only</b>
Hannes Kampher	Dierplaas	0834117704	<b>whatsapp only</b>
Henk Smit	Ingedag	0824518992	<b>whatsapp only</b>
Henk Smit	Ingedag	0824518992	<b>whatsapp only</b>
Eben Slabbert	Zwartlaagte	0834670779	<a href="mailto:deaslabbert@absamail.co.za">deaslabbert@absamail.co.za</a>

## BASIC ASSESSMENT REPORT

Ampie Coetzee	Dutwa	0731565535	<b>whatsapp only</b>
Dawid Venter	Reyneke	0824909896	<b>whatsapp only</b>
Nico Smit	Chairman: Winton Farmers Association	0723233060	<a href="mailto:nico.smit4@gmail.com">nico.smit4@gmail.com</a>
Frans Cloete	Chairman: Van Zylsrus Farmers Association	0727682827	<b>whatsapp only</b>

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

e-mail delivery reports;  
registered mail receipts;  
courier waybills;  
signed acknowledgements of receipt; and/or  
or any other proof as agreed upon by the competent authority.

### 3 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
Over and above the EIA process the application must adhere to planning law and as such an application for change in land use should be submitted to the Joe Morolong Local Municipality.	A consent use application has been lodged with the Municipality.

### 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.

## 5 AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

### Departmental

Name	Department	Telephone	email
Thulani Mthombeni	Department of Environment & Nature Conservation (Northern Cape)	072 409 2277	<a href="mailto:tmthombeni@ncpg.gov.za">tmthombeni@ncpg.gov.za</a>
Isaac Gwija	Department of Environment & Nature Conservation (Northern Cape)	060 989 8441	<a href="mailto:IGwija@ncpg.gov.za">IGwija@ncpg.gov.za</a>
Droien Werth	Department of Environment & Nature Conservation (Northern Cape)	060 991 4675	<a href="mailto:dwerth@ncpg.gov.za">dwerth@ncpg.gov.za</a>
Naomi Mkonopi	Department of Environment & Nature Conservation (Northern Cape)	076 989 8279	<a href="mailto:mokonopin@gmail.com">mokonopin@gmail.com</a>
Dineo Moleko	Department of Environment & Nature Conservation (Northern Cape)	0796950 779	<a href="mailto:kgosimoleko@gmail.com">kgosimoleko@gmail.com</a>
Melissa Whitecross	Birdlife SA		<a href="mailto:melissa.whitecross@birdlife.org.za">melissa.whitecross@birdlife.org.za</a>
Christine Kraft	Department of Agriculture, Environmental Affairs, Rural Development and Land Reform		<a href="mailto:christine.dtec@gmail.com">christine.dtec@gmail.com</a>
Kabelo Dichabe	Joe Morolong Local Municipality		<a href="mailto:dichabek@taologaetsewe.gov.za">dichabek@taologaetsewe.gov.za</a>
Dave Mills	EWT		<a href="mailto:DavidM@ewt.org.za">DavidM@ewt.org.za</a>
Gerrie van der Westhuizen			-
John Taolo Gaetsewe District Municipality			<a href="mailto:vanderwesthuizeng@taologaetsewe.gov.za">vanderwesthuizeng@taologaetsewe.gov.za</a>

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

## 6 CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

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

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.



## SECTION G: IMPACT ASSESSMENT

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

### **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 purpose of the assessment is to synthesise and analyse information relevant to the environmental impacts of a proposal. In order to achieve this, two elements, namely the outline of methodology used and the systematic assessment of the impacts are required.

The environmental significance scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can be ecological, economic, social, or all of the aforementioned. The evaluation of the significance of an impact relies heavily on the values of the person making the judgement. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

Section K identifies the issues associated with the proposed development, providing the significance scale and mitigation measures to reduce negative impacts and enhance positive impacts. Section K provides an explanatory note on the methodology adopted for assessing the significance of the identified impacts.

To facilitate informed decision-making, EIA's must endeavour to come to terms with the significance of the potential environmental impacts associated with particular development activities. Despite their attempts at providing a completely objective and impartial assessment of the environmental implications of development activities, EIA processes can never completely escape the subjectivity inherent in attempting to define significance. Recognising this, we have attempted to address potential subjectivity in the current process as follows:

- Being explicit about the difficulty of being completely objective in the determination of significance, as outlined above.
- Developing an explicit methodology for assigning significance to impacts and outlining this methodology in detail in this BAR. Having an explicit methodology not only forces the assessor to come to terms with the various facets contributing toward determination of significance, thereby avoiding arbitrary assignment, but also provides the reader of the BAR with a clear summary of how the assessor derived the assigned significance.
- Wherever possible, differentiating between the likely significance of potential environmental impacts as experienced by the various affected parties.

Although these measures may not totally eliminate subjectivity, they provide an explicit context within which to review the assessment of impacts.

## 1 ASSESSMENT METHODOLOGY

This section outlines the methodology used to assess the significance of the potential environmental impacts. For each impact, the EXTENT (spatial scale), MAGNITUDE and DURATION (time scale) are described. These criteria are used to ascertain the significance of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The mitigation described represents the full range of plausible and pragmatic measures and does not imply that they would or should be implemented. The tables below show the scale used to assess these variables, and define each of the rating categories.

**Table 3: Assessment criteria for the evaluation of impacts**

CRITERIA	CATEGORY	DESCRIPTION
<b>Extent or spatial influence of impact</b>	<b>Regional</b>	Beyond 5 km of the proposed activity.
	<b>Local</b>	Within 5 km of the proposed activity.
	<b>Site specific</b>	On site or within 100 m of the site boundary.
<b>Magnitude of impact (at the indicated spatial scale)</b>	<b>High</b>	Natural and/ or social functions and/ or processes are <i>severely</i> altered.
	<b>Medium</b>	Natural and/ or social functions and/ or processes are <i>notably</i> altered.
	<b>Low</b>	Natural and/ or social functions and/ or processes are <i>slightly</i> altered.
	<b>Very Low</b>	Natural and/ or social functions and/ or processes are <i>negligibly</i> altered.
	<b>Zero</b>	Natural and/ or social functions and/ or processes remain <i>unaltered</i> .
<b>Duration of impact</b>	<b>Construction</b>	Up to 2 years.
	<b>Short Term</b>	0-5 years (after construction).
	<b>Medium Term</b>	5-15 years (after construction).
	<b>Long Term</b>	More than 15 years (after construction).

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. The means of arriving at the different significance ratings is explained in Table 4.

**Table 4: Definition of significance ratings**

SIGNIFICANCE RATINGS	LEVEL OF CRITERIA REQUIRED
<b>High</b>	High magnitude with a regional extent and long term duration. High magnitude with either a regional extent and medium term duration or a local extent and long term duration. Medium magnitude with a regional extent and long term duration.
<b>Medium</b>	High magnitude with a local extent and medium term duration. High magnitude with a regional extent and short term duration or a site specific extent and long term duration. High magnitude with either a local extent and short term duration or a site specific extent and medium term duration. Medium magnitude with any combination of extent and duration except site specific and short term or regional and long term. Low magnitude with a regional extent and long term duration.
<b>Low</b>	High magnitude with a site specific extent and short term duration. Medium magnitude with a site specific extent and short term duration. Low magnitude with any combination of extent and duration except site specific and short term. Very low magnitude with a regional extent and long term duration.
<b>Very low</b>	Low magnitude with a site specific extent and short term duration. Very low magnitude with any combination of extent and duration except regional and long term.
<b>Neutral</b>	Zero magnitude with any combination of extent and duration.

Once the significance of an impact has been determined, the PROBABILITY of this impact occurring as well as the CONFIDENCE in the assessment of the impact, are estimated using the rating systems outlined in Table 5 and Table 6 respectively. It is important to note that the significance of an impact should always be considered in concert with the probability of that impact occurring. Lastly the REVERSIBILITY is estimated using the rating system outlined in Table 7.

**Table 5: Definition of probability ratings**

PROBABILITY RATINGS	CRITERIA
<b>Definite</b>	Estimated greater than 95 % chance of the impact occurring.
<b>Highly probable</b>	Estimated 80 to 95 % chance of the impact occurring.
<b>Probable</b>	Estimated 20 to 80 % chance of the impact occurring.
<b>Possible</b>	Estimated 5 to 20 % chance of the impact occurring.
<b>Unlikely</b>	Estimated less than 5 % chance of the impact occurring.

**Table 6: Definition of confidence ratings**

CONFIDENCE RATINGS	CRITERIA
<b>Certain</b>	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
<b>Sure</b>	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
<b>Unsure</b>	Limited useful information on and understanding of the environmental factors potentially influencing this impact.

**Table 7: Definition of reversibility ratings**

REVERSIBILITY RATINGS	CRITERIA
<b>Irreversible</b>	The activity will lead to an impact that is permanent.
<b>Long Term</b>	The impact is reversible within 2 to 10 years after construction.
<b>Short Term</b>	The impact is reversible within the 2 years of construction.

## 2 SUBJECTIVITY IN ASSIGNING SIGNIFICANCE

To facilitate informed decision-making, EIA's must endeavor to come to terms with the significance of the potential environmental impacts associated with particular development activities. Despite their attempts at providing a completely objective and impartial assessment of the environmental implications of development activities, EIA processes can never completely escape the subjectivity inherent in attempting to define significance. Recognising this, we have attempted to address potential subjectivity in the current process as follows:

- Being explicit about the difficulty of being completely objective in the determination of significance, as outlined above.
- Developing an explicit methodology for assigning significance to impacts and outlining this methodology in detail in this BAR. Having an explicit methodology not only forces the assessor to come to terms with the various facets contributing toward determination of significance, thereby avoiding arbitrary assignment, but also provides the reader of the BAR with a clear summary of how the assessor derived the assigned significance.
- Wherever possible, differentiating between the likely significance of potential environmental impacts as experienced by the various affected parties.

Although these measures may not totally eliminate subjectivity, they provide an explicit context within which to review the assessment of impacts.

### **3 CONSIDERATION OF CUMULATIVE IMPACTS**

The National Environmental Management Act requires the consideration of cumulative impacts as part of any environmental assessment process. EIA's have traditionally, however, failed to come to terms with such impacts, largely as a result of the following considerations:

- Cumulative effects may be local, regional or global in scale and dealing with such impacts requires co-ordinated institutional arrangements; and
- EIA's are typically carried out on specific developments, whereas cumulative impacts may result from broader biophysical, social and economic considerations, which typically cannot be addressed at the project level.

In terms of the proposed tented camp and staff accommodation the following cumulative impacts have specifically been identified:

- Impact of additional construction related traffic.
- Impact that the additional infrastructure may have on the visual and aesthetic of the area.

#### **4 CONSTRUCTION PHASE IMPACTS ON THE BIOPHYSICAL AND SOCIAL ENVIRONMENT**

The construction phase is likely to result in a number of negative impacts on the biophysical and social environments. The significance of construction phase impacts is likely to be curtailed by their relatively short duration. Moreover, many of the construction phase impacts can be mitigated by the implementation of an approved Environmental Management Programme (EMPr), (see draft report attached as **Appendix G**).

The potential impacts and an assessment of their significance are discussed below.

##### **The bio-physical issues identified include:**

- Change to Physical Topography
- Ecological Sensitivity
- Erosion and Sedimentation
- Ground and surface water impact
- Stormwater management
- Geotechnical conditions

##### **The socio-economic impacts identified include:**

- Heritage
- Solid waste removal – to a registered site
- “Sense of place” – visual impact
- Dust
- Noise pollution
- Safety
- Traffic
- Employment opportunities (short and long-term) - positive

#### **5 FINAL CONCLUSIONS AND RECOMMENDATIONS**

The essence of all EIA processes is aimed at ensuring informed decision-making and environmental accountability. Furthermore, it assists in achieving environmentally sound and sustainable development. In terms of NEMA (No 107 of 1998), the commitment to sustainable development is evident in the provision that “development must be socially, environmentally and economically sustainable and requires the consideration of all relevant factors. In addition, the preventative principle is required to be applied, i.e. that the disturbance of ecosystems and loss of biological diversity are to be “...avoided, or ... minimised and remedied” and “disturbance of the landscape and the nation’s cultural heritage is avoided and where it cannot be altogether avoided is minimised and remedied”. Therefore negative impacts on the environment and on people’s environmental rights in terms of the Constitution (Act 108 of 1996)) should be anticipated and prevented, and where they cannot be altogether prevented, they must be minimised and remedied in terms of “reasonable measures”. “Reasonable measures” implies that “every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law and cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment”.

## 6 CONCLUSIONS

The preceding chapters provide a detailed assessment of the anticipated environmental impacts on specific components of the biophysical and social environments associated with the proposed development of a tented camp and expansion of staff accommodation. This FBAR has provided a comprehensive assessment of the potential environmental impacts, identified by the EIA team and I&AP's, associated with the proposed project. **This investigation has not identified any potential impacts on the biophysical or social environments that are so severe as to suggest that the proposed activity should not proceed.** The design has taken cognisance of the various environmental considerations and accordingly, incorporates remedial measures aimed at curtailing the significance of the potential negative environmental impacts associated with the proposed development, as well as enhancing the potential positive environmental (including Socio-economic) impacts.

The significance of the potential environmental (biophysical and social) impacts associated with the proposed tented camp and staff accommodation are summarised in Table 34.

It should be noted that the impacts have been assessed with a reasonable amount of confidence, i.e. in terms of the defined confidence ratings presented in Table 6.

From table 28 it is apparent that there is no long term or operational phase impacts of significant concern. The negative impacts associated with the operational phase are likely to be of **low to very low** significance, particularly if the proposed mitigation measures are implemented. Moreover, there are a number of potential positive impacts associated with the proposed development, viz., compliance with land use for the area, the creation of positive construction and operational phase impacts on employment opportunities and increased economic activity.

With regards to the short term or construction phase impacts, the significance of the construction phase impacts are likely to be curtailed by the relatively short duration of the construction phase. Moreover, many of the construction phase impacts could be mitigated by the effective implementation of the mitigation measures outlined above. If these measures were put into practice the significance of all construction phase impacts would be reduced to **low**. While the probability of the construction phase impacts occurring is relatively high without mitigation, the effective implementation of the mitigation measures will reduce the probability of the impacts occurring.

**Table 8: Summary of the significance and probability of the potential positive and negative impacts associated with the proposed tented camp and staff accommodation.**

**Construction phase**

IMPACT	Without mitigations (positive & negative)			With mitigation (positive & negative)		
	HIGH	MODERATE	LOW	HIGH	MODERATE	LOW
Surface & Ground-water contamination		x				x
Stormwater		x				x
Potential Impact on stream flow and riparian areas			x			x
Ecological Sensitivity		x				x
Loss of topsoil and soil erosion		x				x
Sanitation and waste management		x				x
Visual Pollution / "Sense of Place"		x				x
Dust & Noise Pollution		x				x
Traffic		x				x
Safety		x				x
Socio-economic Impact			✓		✓	
Employment Opportunities (short-term)			✓		✓	



BASIC ASSESSMENT REPORT

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**Operation phase**

	Without mitigations			With mitigation		
	HIGH	MODERATE	LOW	HIGH	MODERATE	LOW
Erosion and Siltation			*			*
Visual – “sense of place		*				*
Land use			✓		✓	

*It is felt that the proposed tented camp and staff accommodation will have an overall positive impact on the natural and socio-economic environment, and should the necessary mitigation measures be implemented there are no impacts envisaged of high significance or any fatal flaws.*

*In this regard the EAP sees no reason as to why the proposed activity (development of the tented camp and staff accommodation on the Farms Bruwer 294 and Farm Witberg) may not be authorised.*

## 7 ENVIRONMENTAL IMPACT STATEMENT

### Recommendations and Environmental Impact Statement

Should the proposed activity be authorised, the most important mitigation measures, which should be stipulated as requirements in any authorisation include the following:

- The Construction Phase EMPr that addresses, inter alia, the issues discussed under Construction Phase impacts, viz. sedimentation, deterioration of water quality, traffic, windblown dust, noise disturbance and socio-economic impacts, should be effectively implemented for the duration of the project.

**All works will be conducted in accordance with the National Environmental Management: Protected Areas Act (No 10 of 2004); National Forest Act (No 84 of 1998) and National Water Act (No 36 of 1998); including obtaining the necessary permits to remove, destroy or damage any fauna or flora.**

**Strategies outlined below will be implemented to minimise potential impacts on flora and fauna:**

#### Planning

- A pre-construction/maintenance vegetation survey will be completed by qualified ecologist in targeted areas of the site to identify for flagging individual significant species and trees that must be avoided during construction.
- Appropriate permits for the clearing of vegetation, including any aquatic vegetation, will be obtained prior to the commencement of construction if relevant.
- The location of vegetation to be retained will be clearly indicated on all construction drawings.
- Flagging of clearing boundaries will be completed prior to any clearing activity.

#### Construction

- Disturbance will generally be restricted to designated work areas.
- Physical barriers will be installed around significant vegetation areas in order to restrict unauthorised access and avoid disturbance.
- Removal of vegetation is only acceptable if access to infrastructure is impeded. Maintenance work must endeavor to not remove vegetation which is obstructive but does not prevent or inhibit access to the existing infrastructure.
- When clearing and excavation works are essential, then this work will occur progressively to minimise the length of time the ground is exposed, or excavations left open.
- A suitably qualified professional should be appointed to act as the ECO and oversee the implementation of the EMPr during construction.

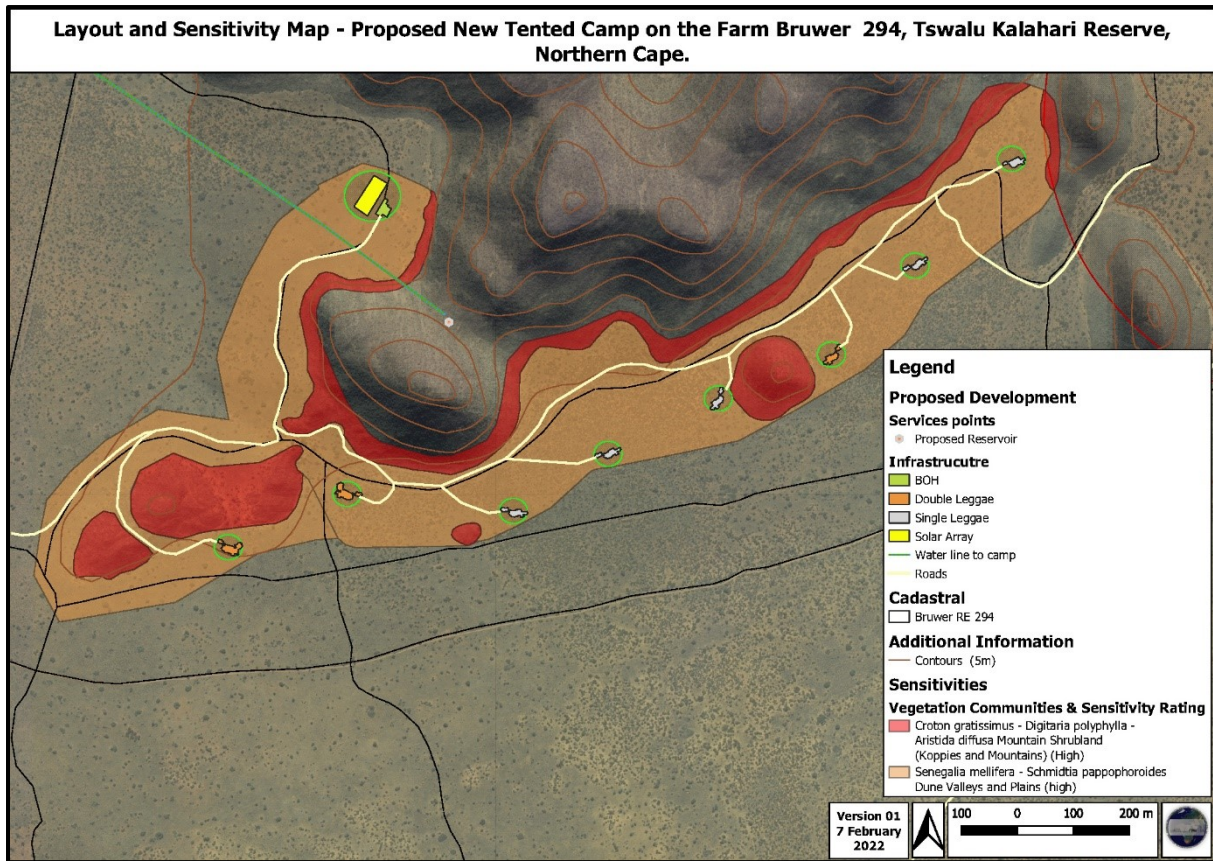


Figure 15: Final layout and sensitivity map for the tented camp component.

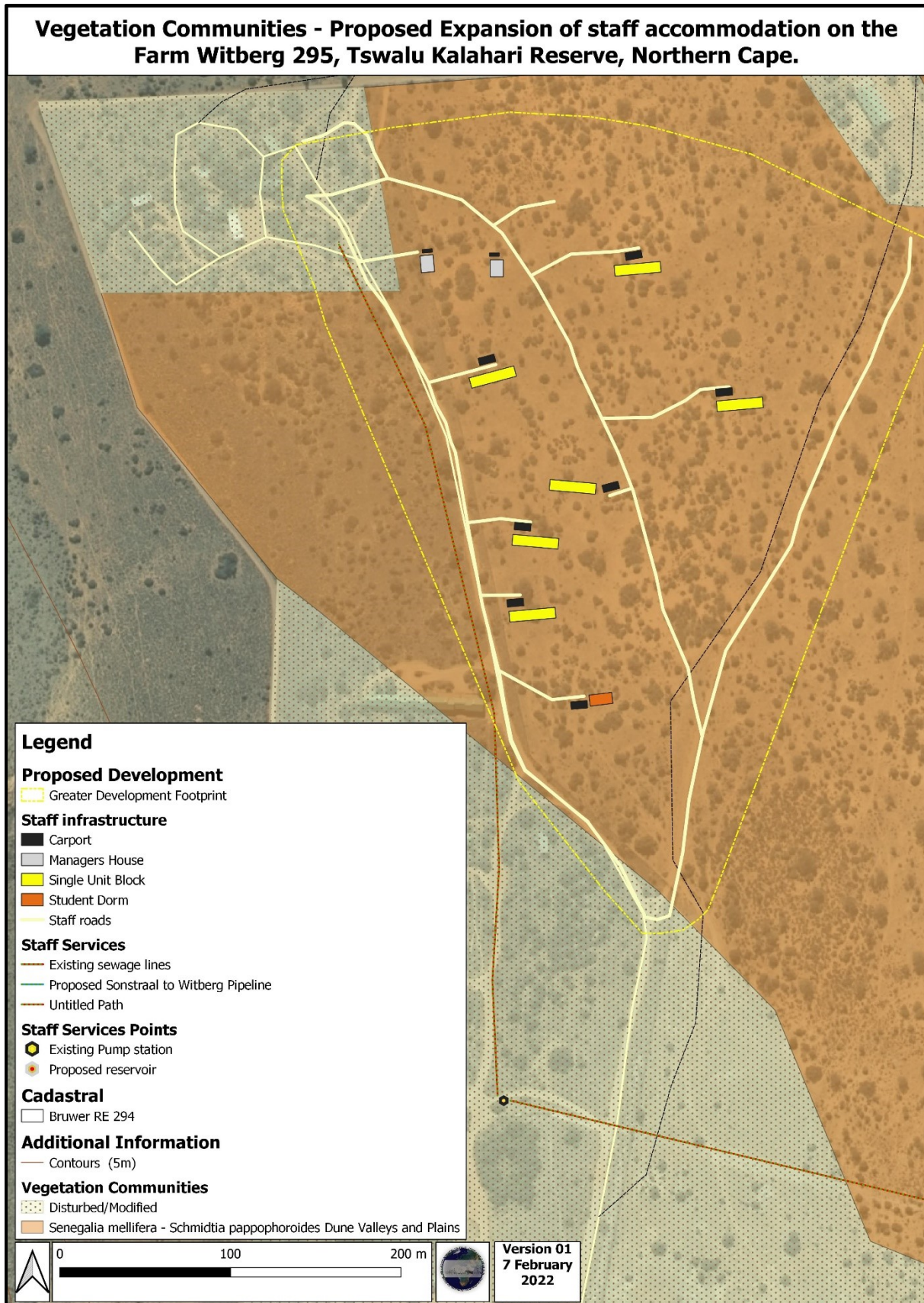


Figure 16: Final layout and sensitivity map for the staff accommodation component.

**SECTION H 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)?

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

N/A
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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.

**Strategies outlined below will be implemented to minimise potential impacts on flora and fauna:**

Planning

- A pre-construction/maintenance vegetation survey will be completed by qualified ecologist in targeted areas of the site to identify for flagging individual significant species and trees that must be avoided during construction.
- Appropriate permits for the clearing of vegetation, including any aquatic vegetation, will be obtained prior to the commencement of construction if relevant.
- The location of vegetation to be retained will be clearly indicated on all construction drawings.
- Flagging of clearing boundaries will be completed prior to any clearing activity.

Construction

- Disturbance will generally be restricted to designated work areas.
- Physical barriers will be installed around significant vegetation areas in order to restrict unauthorised access and avoid disturbance.
- Removal of vegetation is only acceptable if access to infrastructure is impeded. Maintenance work must endeavor to not remove vegetation which is obstructive but does not prevent or inhibit access to the existing infrastructure.
- When clearing and excavation works are essential, then this work will occur progressively to minimise the length of time the ground is exposed, or excavations left open.
- A suitably qualified professional should be appointed to act as the ECO and oversee the implementation of the EMPr during construction.

Is an EMPr attached?

<del>YES</del>	NO
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The EMPr must be attached as Appendix G.

## BASIC ASSESSMENT REPORT

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The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

\_\_\_\_\_  
NAME OF EAP

\_\_\_\_\_  
SIGNATURE OF EAP

\_\_\_\_\_  
DATE

## **SECTION I: APPENDIXES**

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information