Proposed upgrades to infrastructure at RockFig Family Camp on the remaining extent of portion 2 of the farm Nederland 54 KU, in the Timbavati Private Nature Reserve, Mpumalanga province.

Draft Basic Assessment Report

17 July 2023

CORE Environmental Services

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EXECUTIVE SUMMARY

Zebripoint (Pty) Ltd (owner of RockFig Lodge) is applying for Environmental Authorisation by means of conducting a Basic Environmental Authorisation Application process, for the proposed upgrading of structures and infrastructure at their existing Family Camp: The proposed upgrade includes the following:

- Construction of eight accommodation units of which some of the units will be constructed on the footprint of the existing accommodation units. Zebripoint is however only intended on constructing six of these units at this point in time.
- Demolishing the existing swimming pool and constructing a small splash pool at each of the accommodation units.
- Upgrade of an existing sewer system.
- Construction of a wall/buffer to separate the staff facilities from the lodge.
- Clearance of vegetation for a 100KVa solar array.

In accordance with the National Environmental Management Act, 107 of 1998, a Basic Environmental Authorisation Application process is required to apply for the required Environmental Authorisation as per GNR982, of 2014 (as amended in 2017). It is also noted that some of these activities will be undertaken within a close proximity to the adjacent water course and therefore an application for a Water Use License (WUL) will also be submitted for the water uses as per Section 21 of the National Water Act 36 of 1998 (NWA 36, of 1998).

Zebripoint (Pty) Ltd subsequently appointed **Core Environmental Services** to apply for the EA as well as WUL by means of conducting a Basic Environmental Authorisation Application Process as well as Water Use License Application process in accordance with the NEMA 107 of 1998 and NWA 36, of 1998 respectively.

The construction activities are likely to result in environmental and socio-economic impacts. The identified impacts are listed below and discussed thereafter:

- *Impact on biodiversity.*
- *Generation of noise.*
- *Generation of dust.*
- *Generation of waste.*
- *Impact on soil.*
- *Impact on water resources.*
- *Impact on heritage resources.*
- *Socio-economic impact.*

The table below summarises the impacts identified and assessed for the establishment of the project:

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Construction Phase Impacts		
Loss of Vegetation	Low	Very Low
Loss and Fragmentation of Habitat	Medium	Low
Generation of Noise	Medium	Low

Generation of Dust	Medium	Low
Generation of Waste	Medium	Low
Erosion	Low	Very Low
Soil Pollution	Low	Very Low
Water Pollution	Low	Very Low
Sedimentation	Medium	Low
Impact on Heritage Resources	Low	Very Low
Job opportunities	Low (+)	Medium (+)
Health and Safety	Medium	Low
Operational Phase Impacts		
Erosion	Medium	Low
Water Resource Use	Medium	Low
Impact on water resources, sedimentation	Medium	Low
Job opportunities	Medium (+)	Medium (+)

The assessment of the possible impacts associated with the upgrades and operational activities, concluded that the impact on the surrounding environment is of **low significance** after the implementation of mitigation measures. Recommendations have however been made to address the impacts which could affect the biophysical and socio-economic environment. Recommendations for the mitigation of impacts are included within **Section 7** and also the Draft Environmental Management Plan attached.

It is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation included as the conditions of the authorisation.

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ABBREVIATIONS

BAR	Basic Assessment Report
CBA	Critical Biodiversity Area
EA	Environmental Authorisation
GNR	General Notice Regulation
I&AP	Interested and Affected Party
LIA	Late Iron Age
MDARDLEA	Mpumalanga Department of Agriculture, Rural Development, Land and Administration
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NHRA	National Heritage Resources Agency
PPP	Public Participation Process
SACAA	South African Civil Aviation Authority

1. OVERVIEW OF THE PROJECT

1.1 Introduction

Zebripoint (Pty) Ltd (owner of RockFig Lodge) is applying for Environmental Authorisation by means of conducting a Basic Environmental Authorisation Application process, for the proposed upgrading of structures and infrastructure at their existing Family Camp: The proposed upgrade includes the following:

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1.2 Location

The proposed development (RockFig Family Camp) is situated in the central portion of the Timbavati Private Nature Reserve within the Greater Kruger National Park on Portion 2 of the farm Nederland 54 KU in the Ehlanzeni District, Mpumalanga Province, South Africa. The upgrades are all proposed within the existing footprint of the RockFig Family Camp. The camp perimeter fence might be moved to make provision for the solar array; however, all development will still fall within the demarcated 5Ha area of the camp. Please refer to the locality map below, Figure 1.

Central coordinates of the site:
24°18‘25.63“S
31°17‘26.8“E

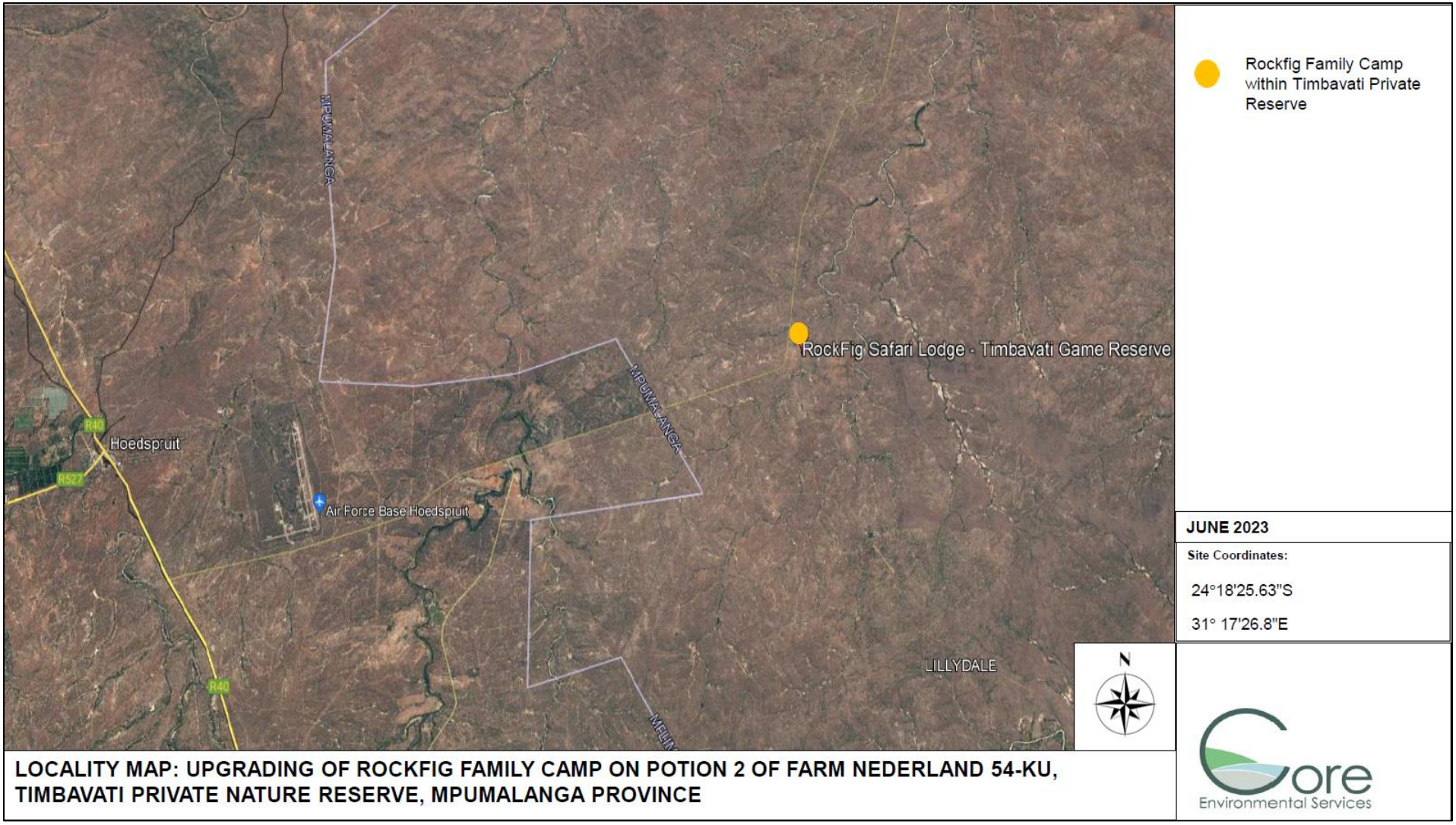

FIGURE 1: LOCALITY MAP – UPGRADING OF ROCKFIG FAMILY CAMP IN TIMBAVATI PRIVATE NATURE RESERVE, MPUMALANGA PROVINCE.

1.3 Details of the EAP

Ms. Anne-Mari White is an Environmental Specialist, who started her studies at the North-West University (NWU) and completed her Bachelor of Science: Environmental Management at the University of South Africa (UNISA) in 2007. Ms. White is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA Reg No: 2020/602) as well as the South African Council for Natural Scientific Professionals as a Certificated Natural Scientist (Reg. No 300067/15). In addition to her qualification, she completed short courses in soil classification and wetland delineations (Terrasoil Science), Geographic Information Systems (University of KwaZulu-Natal), and Environmental Impact Assessments (NWU).

1.4 Policy, Legal and Administrative Framework

TABLE 1: LEGISLATION APPLICABLE TO THE PROJECT

Applicable legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments considered	Project application and type (permit / licence / authorisation / comment)
The Constitution of South Africa Act, 1996 (No. 108 of 1996)	**Zebripoint Pty Ltd** will be required to adhere to the Environmental Management Programme (EMPr) requirements to ensure that social and environmental management considerations are considered and implemented. As per Section 25 the Constitution, a public participation process (PPP) was and will continue to be undertaken, as this is considered to be an essential mechanism for informing stakeholders of their rights and obligations in terms of the project.
National Environmental Management Act, 1998 (No. 107 of 1998)	Environmental Authorisation will subsequently be applied for by means of conducting a Basic Environmental Authorisation process as regulated within GNR982 of 2014 (as amended in 2017).
National Environmental Management: Protected Areas Act, 2003 (No. 57 of 2003)	The development will take place inside the Timbavati Private Nature Reserve which is classified as a protected area.
National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004)	The act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits

	arising from bioprospecting involving indigenous biological resource; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith. 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 (No. 39 of 2004)	The act regulates air emissions generally, including air emissions resulting from various construction activities. In this regard dust pollution is of relevance. 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 (No. 59 of 2008)	The project will endeavour 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.
Occupational Health and Safety Act, 1998 (No. 85 of 1998)	The Act provides for the health and safety of people at work and for the health and safety of people using plant and machinery. During establishment, work must be conducted with strict adherence to the Occupational Health and Safety Act 85 of 1998.
National Heritage Resources Act, 1999 (No. 25 of 1999)	This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations. Should any items of significance be discovered during establishment, a Heritage Specialist must be contacted immediately, and work must cease until confirmation from the Specialist is received. For this reason, the applicant must adhere to the regulations stipulated within the National Heritage Resources Act, 1999.
National Water Act, 1998 (No. 36 of 1998)	The Act recognises that water is a scarce and unevenly distributed national resource which occurs in many different forms, which are all part of a unitary, interdependent cycle. Although water is a natural resource, it belongs to all people, and everyone should have equal access to water and use of water resources. The Act acknowledge the National Government's

	overall responsibility for and authority over the nation's water resources and their use, including the equitable allocation of water for beneficial use, the redistribution of water, and international water matters. The ultimate aim of water resource management is to achieve the sustainable use of water for the benefit of all users; the protection of the quality of water resources is necessary to ensure the sustainability of the nation's water resources in the interests of all water users. Recognising the need for the integrated management of all aspects of water resources and, where appropriate, the delegation of management functions to a regional or catchment level to enable everyone to participate.

1.5 National Environmental Management Act 107 of 1998

In accordance with the National Environmental Management Act 107, of 1998, the following listed activities will be triggered by the proposed project and will require approval prior to commencement:

GNR 983, 2014 (as amended in 2017), Activity 12:
The development of structures and infrastructure exceeding 100 square meters in size, where such development occurs within a watercourse or within 32m from watercourse.

GNR 985, 2014 (as amended), Activity 12:
The clearance of an area of 300 square metres or more of indigenous vegetation within Mpumalanga, within a Protected Area (NEMPA).

GNR 985, 2014 (as amended), Activity 14:
The development of structures or infrastructure with a physical footprint of 10 square meters or more within a watercourse or within 32 meters of a watercourse, measured from the edge of a watercourse within Mpumalanga, within a Protected Area (NEMPA).

As per Section 21 of the National Water act 36, of 1998, the following water uses will be triggered by the proposed upgrades and subsequently require authorisation:

- Section 21 (c) - Impeding or diverting the flow of water in a watercourse.
- Section 21 (i) - Altering the bed, banks, courses, or characteristics of a watercourse.
- Section 21 (g) - Disposing of waste in a manner which may detrimentally impact on a water resource.

A Water Use License Application is therefore required in terms of Section 21 of the National Water Act 36 of 1998 and therefore this process will be undertaken in accordance with the Act.

1.6 Description of the project

Zebripoint (Pty) Ltd (owner of RockFig Lodge) is applying for Environmental Authorisation by means of conducting a Basic Environmental Authorisation Application process, for the proposed upgrading of structures and infrastructure at their existing Family Camp: The proposed upgrade includes the following:

- Construction of six rondawels which involves the refurbishment and upgrading of some existing rondawels and the construction of some new rondawels.
- Construction of a new swimming pool.
- Upgrade of an existing sewer system.
- Construction of a wall/buffer to separate the staff facilities from the lodge.
- Clearance of vegetation for a 100KVa solar array.

Water for the operation of the existing lodge is sourced from a borehole located on the property.

In terms of wastewater treatment, sewage is currently treated by means of an existing sewage system, however, as part of the project, the current sewage system will be upgraded to the appropriate capacity to ensure efficient treatment.

All litter/waste generated at the camp site should be properly disposed of as outlined in the existing Timbavati Private Nature Reserve Environmental Management Plan. Household waste would be temporarily stored and sorted on site and recycling of the waste is promoted. Any temporary waste storage area will be fenced to prevent any animals from accessing the temporary area.

1.7 Need and Desirability

The applicant wishes to upgrade the existing RockFig Family Camp in the Timbavati PNR. This has multiple benefits and will culminate in financial gain, economic growth, community upliftment and environmental/conservation benefit.

- The tourism industry is at an all-time high and still growing, this creates a need for additional and varied products to accommodate the increasing number and wide array of tourists. The proposed operation will target a specific niche market (up-market family friendly accommodation is not widely available) within the tourism industry and the marketing efforts will create an even larger demand for not just the Timbavati, but for South Africa as a whole.
- There is the opportunity for financial gain, not just for the landowner and camp operators, but also for the local community. The camp will employ local staff members. The camp will

support these staff members, their families and community through job creation and skill upliftment.

- The camp will use many suppliers to deliver the required supplies to the camps for successful operation. Products are sourced locally and will further support the local community by creating extra demand for products.
- The Timbavati Private Nature Reserve is a world-renowned nature area and being part of the Greater Kruger National Park makes it a highly sought after holiday destination for international tourists. Due to the affordability of accommodation in a high-end market, the Timbavati also successfully caters for the local tourism market. Attracting more tourists to South Africa through creating a new safari product, benefits the local economy, as well as the national economy by creating a larger demand for all tourism services.
- All guests visiting lodges within the Timbavati PNR pay a considerable conservation levy to support the Timbavati management in operating and protecting the unique ecosystem which is the Timbavati. Especially important in this regard is the anti-poaching efforts, protecting amongst others the rhino population. The upgraded camp will result to more accommodation facilities being available which would lead to an increase in tourists visiting the lodge, resulting to an increase in funds available to the Timbavati to assist with the conservation operations.

2. PUBLIC PARTICIPATION PROCESS

The purpose of this chapter is to provide an outline of the public participation process (PPP) to date and the way forward with respect to the Basic Assessment process.

Consultation with the public forms an integral component of the EA process. This process enables Interested and Affected Parties (I&APs) (e.g., directly affected landowners, national-, provincial- and local authorities, and local communities etc.) to raise their issues and concerns regarding the proposed activities, which they feel should be addressed in the BA process. The PPP has thus been structured such as to provide I&APs with an opportunity to gain more knowledge about the proposed project, to provide input through the review of documents/reports, and to voice any issues or concerns at various stages throughout the BA process.

I&APs were identified during the public participation phase of the project. All the parties identified as an I&AP (surrounding landowners, relevant departments, stakeholders, local and district authorities) have automatically been registered in the I&APs database for the project. The registered I&AP list is attached as **Annexure C.1.**

In effort to engage potential stakeholders, different communication methods were used to inform them about the project and how to get involved in the BA process. These methods include:

- Distributing English Background Information Documents (BIDs) to all registered I&APs, proof of which is attached in **Annexure C.2**.
- Placement of media advert in a local newspaper (The Lowvelder) on 15 June 2023 (see **Annexure C.3**).
- Placing of a notice at the proposed site took place on 16 June 2023 (see **Annexure C.4**).

The draft Basic Assessment Report will be made available for public review from July – August 2023.

To date no comments have been received by I&AP's.

3. CONSIDERATION OF ALTERNATIVES

The EIA process requires the developer to identify and investigate/assess feasible and reasonable alternatives. The project alternatives range from the location where the activity is proposed, type of activity to be undertaken, design the of activity, technology to be used in the activity to the option of not implementing the activity (No-Go Alternative).

The assessment of the alternatives is a complicated and multi-faceted issue, which is essential to the success of this application and ultimately to the proper, responsible and sustainable operation of the proposed project.

3.1 Alternative Selection

3.1.1 Location alternatives

The upgrade of the existing camp is fundamentally a right held by the owners. The activity can only occur within the boundaries of the property owned by the applicant, within a 5-ha area determined by the General Manager/Warden/EXCO and in terms of the Constitution of the Timbavati Private Nature Reserve (TPNR). To suggest an alternative property would not be feasible. An alternative site in an ecologically sensitive area would be unreasonable.

3.1.2 Layout alternatives

An Ecological Assessment was undertaken during the assessment process to identify potential impacts on the environment. The layout of the Rockfig Family Camp was informed by the specialist assessment undertaken as sensitivities were outlined within the specialist assessment and structures proposed were placed accordingly.

3.1.3 No-Go alternative

The no-go alternative would be to not authorise the application for the upgrades of infrastructure at the camp. Should this alternative be favourable, the construction activities and upgrading of the Family Camp will not take place. However, the impacts associated with the proposed upgrades/construction were not found to be so severe for the no-go alternative to be further investigated. In fact, the upgrades will have a positive impact on tourism within the reserve.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The description of the affected environment below draws on existing knowledge from published data, previous studies, specialist investigations, site visits to the area and is used to understand the possible effects of the proposed project on the environment.

4.1 Topography

The project area falls within an area that constitutes gently sloping, undulating terrain. It is situated within the quarter-degree grid square (QDGS) 2431 AD at an elevation of ~400 masl. The topography of the existing camp is relatively flat but are characterised by steep riverbanks that form the Ross River. The development and construction activities associated with the construction, suggests the possibility of changes to topography of the area and thus the landscape. These changes however will be minimal as the Upgraded Family Camp will in no way alter the topography as each feature will be installed on an existing and already impacted footprint. All will be installed on flat areas. This potential impact is considered to be of low significance with mitigation measures implemented.

The camp upgrades should be built and designed in such a way as to minimise its effect on the natural surroundings. The following should be taken note of:

- Structures to be installed should where possible, be built to accommodate the natural features on site. These include but are not limited to: Termite mounds, large trees and bush clumps as well as any other outstanding physical features. These should be left untouched, and infrastructure aligned to accommodate these.
- Storm water and erosion control measures should be put into place where topography is altered.

4.2 Climate

Mpumalanga is a province where the climate varies due to its topography. The project site is located within the Lowveld Region of the eastern escarpment of South Africa. Temperatures vary between -4°C and 45°C, with an average of 22°C. Approximately 65 - 70% of the area's rainfall occurs during the summer months between October and March, in the form of conventional thunderstorms and showers, and measure from 450 - 600 mm per year.

4.3 Geology and Soils

Many varieties of gneiss and granite underlie the Lowveld areas in the Timbavati region. Amongst others, these rocks include the gneisses of the undifferentiated Swazian basement complex to the east, as well as a number of younger intrusive granites.

Lithology

In terms of the 1:250,000 scale published geological map of the area (Pilgrims Rest 2430), recharge to the granitic gneiss aquifers was estimated during previous studies to be in the order of 3% of the mean annual precipitation. The annual groundwater recharge of the area is low and was estimated between 12mm and 20mm per annum across the entire area.

Makhutswi Gneiss (Zbg)

The oldest rocks in the immediate vicinity of the Camp are the Makhutswi Gneiss's. They are characterized by their homogeneity and lack of xenoliths and migmatitic textures. This litho-type is often described as white to grey, massive, equigranular, medium- to fine-grained rock consisting of quartz, plagioclase and biotite with small amounts of sphene and microcline and occasionally pyrite (Walraven, 1989).

Migmatite & Gneiss (Zm)

A second rock type of the basement complex is migmatite and gneiss (or Basement Gneiss) which is the dominant lithology located on site. A variable suite of rocks is present, but the predominant type is a light-grey, medium-grained, biotite-rich gneiss with white, coarse-grained (pegmatitic in places), quartz feldspar leucosomes. The main minerals include quartz, plagioclase and biotite. Layering and folding are common features in the migmatite as well as boudins and schlierin defined by mafic minerals. These rocks have undergone multiple deformations and partial melting. Amphibolite bodies are common as well as muscovite-pegmatite veins (Walraven, 1989).

Timbavati Gabbro (Mt)

The Timbavati gabbro is intrusive and therefore younger than the Swazian basement rocks described above. Recent mapping has established the sill-like nature of the gabbro body. These rocks are best described as basic to ultrabasic rocks that range in colour from blue grey to greenish and consist mostly of plagioclase feldspar, orthopyroxene, clinopyroxene and olivine (Walraven, 1989).

4.4 Ecology

Terrestrial and aquatic ecology

The site is located in disturbed open woodland adjacent to a small drainage line, but no riparian plant species are present. A few large *Acacia nigrescens* trees are scattered within the proposed footprint but most woody plants grow as small to large shrubs. These include *Combretum apiculatum, Grewia bicolor, G. hexamita, Euclea divinorum, Dichrostachys cinerea* subsp. *nyassana,* and *Maerua parviflora*. Common herbs recorded include *Ocimum americanum* var*. americanum, Commelina africana* var. *krebsiana, Dicoma tomentosa* and *Rhinacanthus xerophilus*. *Tragus berteronianus, Melinis repens, Aristida scabrivalvis* subsp. *contracta* and *Enneapogon cenchroides* are the dominant grasses throughout the site. Sixty two species of plants were identified within the 0.65 ha

site (Appendix 1 of the specialist report), a moderate reflection of the species-richness of the area. One protected species was confirmed to occur, namely *Sclerocarya birrea* subsp. *caffra* is protected under the National Forests Act (No. 30 of 1998), of which seven plants were counted in four localities within the study area. All but one of these are growing as small specimens. GPS co-ordinates for this species are provided in the ecological sensitivity scan.

The study area is in a disturbed condition, with the dominance of the grasses *Tragus berteronianus, Melinis repens* and *Aristida scabrivalvis* subsp. *contracta* being indicative of this. Past agricultural practices such as livestock kraals may be responsible for this disturbance.

Potentially Occurring Threatened and Other Plant Species of Conservation-Concern

One Threatened plant species potentially occurs within the general area, namely *Adenium swazicum*, which has been assessed as Critically Endangered; however, no habitat is present for this species in the footprint or the surrounding area. This species is also easily identified, and the survey took place within the flowering period of this succulent. A further two Near-threatened plant species potentially occur, namely the tree *Elaeodendron transvaalense* and the bulb *Drimia sanguinea*. Both species have a moderate likelihood of occurring in the area but are easily identified and were not found during fieldwork. Seven Declining plant species potentially occur within the area. Three of these have a low likelihood of occurrence due to unsuitable habitat (*Boophone disticha, Hypoxis hemerocallidea* and *Adenia gummifera* var. *gummifera*). The remaining four species (*Crinum macowanii, C. stuhlmannii, Drimia altissima* and *Ansellia africana*) have a moderate likelihood of occurring within the study area but are easily identified and visible species and were not located during fieldwork.

Potentially Occurring Threatened and Near-threatened Fauna Species

The Timbavati Game Reserve, part of the Greater Kruger National Park, offers protection to many conservation-important species of fauna. This includes Endangered mammal species such as African Wild Dog and Tsessebe and Vulnerable species such as Cheetah, Black Rhinoceros, Roan, Sable, Ground Pangolin and Lion. Potentially occurring Vulnerable bird species include White-backed, Hooded, White-headed, Lappet-faced and Cape Vultures, Bateleur, Martial Eagle, Lesser Kestrel, Yellow-billed Oxpecker and Southern Ground Hornbill. A number of Near-threatened mammal species potentially occur. These include Sharp's Grysbok, Side-striped Jackal, Spotted and Brown Hyaenas, Serval and Honey Badger. All of these species potentially occur within the study area but only as occasional visitors. Bird species potentially occurring that are classified as Near-threatened include Black-bellied Bustard, Lanner and Peregrine Falcons, Red-billed Oxpecker and Secretary bird. While some habitat is present for these species, the small nature of the site restricts them to being occasional foraging visitors and it is highly unlikely that any would breed within the site. Potentially occurring conservation-important frogs and reptiles may include the Near-threatened Giant Bullfrog and the Vulnerable Nile Crocodile, but breeding habitat for both is absent from the site. While it is possible that some or all of these species may occur within the proposed development footprint, none are resident and may only use the site for occasional foraging. This

includes nesting of large raptors in the tall *Acacia nigrescens* trees as human disturbance levels from the adjacent lodge would deter any breeding behaviour.

4.5 Surface and Groundwater

The seasonal Ross River runs to the north of the proposed site, within 32 m of the camp site. The river flows northeast until it reaches the Nhlaralumi River, a seasonal spruit, which in turn is a tributary of the Olifants River. The camp site is relatively flat with slopes towards the stream at approximately 3-5%. The Nhlaralumi River is classified as a National Freshwater Ecosystem Priority Area (NFEPA).

It terms of Aquatic Biodiversity, the project area is classified as "Other Natural Areas" according to the Mpumalanga Biodiversity Sector Plan (MBSP; Driver *et al.,* 2017). Other Natural Areas are areas outside the protected area network that are currently natural or semi-natural but have not been identified as a Critical Biodiversity Area (CBA). Provided that protected areas and CBAs remain largely natural, and ecological processes are maintained in Ecological Support Areas (ESAs), intensive land uses can be expanded into Other Natural Areas without undue impacts on biodiversity conservation or the ecological sustainability of the landscape as a whole (Driver *et al.,* 2017).

The current water quality of the Ross River is unknown; however, it is assumed to be in a good/natural condition as few activities are taking place within the watercourse and as it is enclosed in the nature reserve. Sedimentation within the watercourse would be minimized by implementing erosion preventative mitigation measures where needed.

4.6 Land use

The entire TPNR is situated within the **Protected Areas National Parks and Nature Reserves** category according to the Mpumalanga Biodiversity Sector Plan (MBSP; Lötter *et al*., 2014). The MBSP recommends that protected areas be treated in the same way as "Irreplaceable" Critical Biodiversity Areas, which means that these areas are to be maintained in their natural state. Any development should be carried out under the provisions of the National Environmental Management Act (NEMA, Act 107 of 1998) and the Protected Areas Act (No. 57 of 2003). The recommended permissible land-use is Conservation/Stewardship while Low Impact Tourism would be considered a "Land-use that may compromise the biodiversity objective and that is only permissible under certain conditions".

4.7 Socio-Economic Environment

The proposed activity is isolated from a social perspective as it is located on privately owned land with restricted access and is intended for the sole benefit of the landowner, his employees and guests. The site is discreetly located to conceal the structures from vehicular traffic and the accommodation of neighbouring owners or occupiers is far removed. The landowner has indicated that they would like to refurbish and upgrade the current RockFig Family Camp as it has been

operating for a long time and the infrastructure needs to be upgraded. The upgrades will result in various employment opportunities for local community members and will ensure an increase in income for the lodge as well as the Timbavati Private Nature Reserve.

4.8 Heritage

There was no evidence to show that the site holds any form of cultural significance. There were no heritage resources, including known archaeological or paleontological sites over 100 years old, and graves or structures older than 60 years. The affected area is small, and bedrock will not be disturbed during the upgrades. The site is located on a river terrace, but not within potentially fossiliferous superficial deposits. Furthermore, the public participation process, including site meetings, did not reveal any oral histories and cultural landscapes associated with the site.

However, should excavation or large scale earth moving activities reveal any human remains, broken pieces of ceramic pottery, large quantities of sub-surface charcoal or any material that can be associated with previous occupation, the South African Heritage Resources Agency must be notified immediately, and a qualified archaeologist should be notified. This will also temporarily halt such activities until an archaeologist has assessed the situation. It should be noted that if such a situation occurs it may have further financial implications for the developer.

5. SPECIALIST ASSESSMENT REQUIREMENTS AS IDENTIFIED IN THE SCREENING REPORT

The following specialist assessments were identified within the Department of Environmental Affairs Screening Report to be conducted as part of the Basic Environmental Impact Assessment:

- Visual Impact Assessment

The proposed activity is an upgrade to existing infrastructure and not a new development area. Furthermore, the family camp site is somewhat isolated (hidden in the surrounding natural bush) from a social perspective and will not affect neighbouring landowners in terms of visual impacts. For this reason, no visual impact assessment was conducted.

- Heritage and Paleontological Impact Assessment

The project area has already been impacted by the existing lodge infrastructure. According to the Heritage Resources Act 25, of 1999, a Heritage Impact Assessment is required when more than 5 000 m^2 is impacted or a linear activity is more than 300 m in length. As the additional footprint to be impacted are less than 5000 m^2, no Heritage or Paleontological Assessment would be required.

- Terrestrial Biodiversity Assessment / Plant and Animal Species Assessment

The development will take place inside the Timbavati Private Nature Reserve which is classified as a Protected Area. Therefore, an Ecological Impact Assessment was undertaken on the property to identify any ecological sensitive areas within the project area. Please refer to specialist report/Section 4.4 for more detail on the findings made by the specialist. Provided the recommendations suggested in the BA report are followed, and the developer complies with all relevant legislation pertaining to the development activities (such as the NEMBA and the NEMPAA), there is no objection to the proposed developments in terms of the terrestrial biodiversity of the study area.

- Socio-economic Assessment

The proposed project will not have any negative impact on the socio-economic environment. Contrary to this, some additional job opportunities will be created during the construction phase of the project, which will have a positive impact on the local community.

As no negative socio-economic impact is expected with the proposed project, it is the opinion of the EAP that no Socio-Economic Impact Assessment is required.

6. METHODOLOGY OF ASSESSING THE SIGNIFICANCE OF IMPACTS

This section outlines the method used for assessing the significance of the potential environmental impacts during the construction/establishment, operational and decommissioning phases.

For each impact, the EXTENT (spatial scale), MAGNITUDE and DURATION (time scale) would be described, as shown in **Table 2**. These criteria are then used to determine 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 in the Report represents the full range of plausible and pragmatic measures but does not necessarily imply that they would be implemented.

The following tables show the scale used to assess these variables and defines each of the rating categories.

TABLE 2: ASSESSMENT CRITERIA FOR THE EVALUATION OF IMPACTS

Criteria	Category	Description
Extent or spatial influence of impact	**Regional**	Beyond a 30km radius of the candidate site.
	Local	Within a 30km radius of the candidate site.
	Site-specific	On site or within 100 m of the candidate site.
Magnitude of impact (at the indicated spatial scale)	**High**	Natural and/ or social functions and/ or processes are *severely* altered
	Medium	Natural and/ or social functions and/ or processes are *notably* altered
	Low	Natural and/ or social functions and/ or processes are *slightly* altered
	Very low	Natural and/ or social functions and/ or processes are *negligibly* altered
	Zero	Natural and/ or social functions and/ or processes remain *unaltered*
Duration of impact	**Long-term**	More than 10 years after construction
	Medium-term	Up to 5 years after construction
	Construction-term	Up to 3 years

The SIGNIFICANCE of an impact is derived by taking into account magnitude, duration and extent of each impact. The criteria employed in arriving at the different significance ratings is shown in Table 3.

TABLE 3: DEFINITION OF SIGNIFICANCE RATINGS

Significance ratings	Level of criteria required
High	• 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
Medium	• High magnitude with a local extent and medium-term duration • High magnitude with a regional extent and construction period or a site-specific extent and long-term duration • High magnitude with either a local extent and construction period duration or a site-specific extent and medium-term duration • Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Low magnitude with a regional extent and long-term duration
Low	• High magnitude with a site-specific extent and construction period duration • Medium magnitude with a site-specific extent and construction period duration • Low magnitude with any combination of extent and duration except site specific and construction period or regional and long term • Very low magnitude with a regional extent and long-term duration
Very low	• Low magnitude with a site-specific extent and construction period duration • Very low magnitude with any combination of extent and duration except regional and long term
Neutral	• Zero magnitude with any combination of extent and duration

Once the significance of an impact has been determined, the **PROBABILITY** and **CONFIDENCE** of this impact are determined using the rating systems outlined in **Table 4** and **Table 5.** The significance of an impact should always be considered in concert with the probability of that impact occurring. Lastly, the **REVERSIBILITY** of the impact is estimated using the rating system outlined in **Table 6.**

TABLE 4: DEFINITION OF PROBABILITY RATINGS

Probability ratings	Criteria
Definite	Estimated greater than 95 % chance of the impact occurring.
Probable	Estimated 5 to 95 % chance of the impact occurring.
Unlikely	Estimated less than 5 % chance of the impact occurring.

TABLE 5: DEFINITION OF CONFIDENCE RATINGS

Confidence ratings	Criteria
Certain	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
Sure	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
Unsure	Limited useful information on and understanding of the environmental factors potentially influencing this impact.

TABLE 6: DEFINITION OF REVERSIBILITY RATINGS

Reversibility ratings	Criteria
Irreversible	The activity will lead to an impact that is in all practical terms permanent.
Reversible	The impact is reversible within 2 years after the cause of the impact is removed.

7. ENVIRONMENTAL IMPACT ASSESSMENT

The biophysical and social environment will be impacted during the establishment and operational phases of the proposed project. For this reason, the impacts below are assessed for both phases.

7.1 Impacts during the construction process

The construction activities are likely to result in environmental and socio-economic impacts. The identified impacts are listed below and discussed thereafter:

- *Impact on biodiversity.*
- *Generation of noise.*
- *Generation of dust.*
- *Generation of waste.*
- *Impact on soil.*
- *Impact on water resources.*
- *Impact on heritage resources.*
- *Socio-economic impact.*

7.1.1. Impact on biodiversity

Description of the potential impact
As the RockFig Family Camp is located within the Protected Area according to the Mpumalanga biodiversity Sector Plan of 2014 (as amended). However, the facility is existing, and therefore the project area has already been impacted, resulting to the vegetation sensitivity being moderate. The total loss of land for habitats is highly unlikely and any loss that does occur will be localised.

Significance of the impact
The magnitude of vegetation loss is **low** as much of the area surrounding the site, as well as the site itself will be able to sustain the vegetation in its natural state. Impacts will be site specific and temporary of temporary nature.

The upgrades on the project site will not result in a change of land-use and will thus not further contribute to large scale fragmentation and loss of faunal habitats. However, despite this, barriers to faunal dispersal and migration will occur and without mitigation the significance of the impacts will be **medium**. These impacts will be permanent and site-specific and with mitigation measures implemented, the impacts may be reduced to **low**.

TABLE 7: SIGNIFICANCE OF BIODIVERSITY IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Loss of Vegetation [NEGATIVE]	**Low**	**Site-specific**	**Long-term**	**Probable**	**Low**	**Very Low**
Loss and fragmentation of habitat [NEGATIVE]	**Medium**	**Site-specific**	**Long-term**	**Probable**	**Medium**	**Low**

Mitigation measures

- The several naturally occurring species of protected plants located during the ecological assessment (such as *Spirostachys africana*, *Combretum imberbe, Philenoptera violacea*, *Sclerocarya birrea, Ansellia africana* and *Elaeodendron transvaalense*), as well as a few planted species, such as *Aloe marlothii* and *Adenium multiflorum*. should be retained where possible, and the succulents that need to be moved may be done so and transplanted carefully.
- Permits are required for removal, relocation and pruning of protected plant species (permits can be obtained from MPTA or DAFF).
- Development within the riparian zone must be limited to non-permanent infrastructure such as wooden decking supported by buried poles.
- Where infrastructure is to be erected the layout should take cognizance of the natural features and thus allow for relative free movement of fauna. Ecological corridors are to be incorporated into the design.
- Vehicles should comply with the relevant legislation of the park and should be restricted in terms of speed to protect animals within the park.

7.1.2. Generation of noise

Description of the potential impact

Construction activities, construction vehicles and construction personnel on site would cause an increase in noise in the area, which may impact negatively on adjoining landowners and users.

Significance of the impact

Since the proposed camp is situated within the Timbavati Private Nature Reserve and given that surrounding neighbours require a quiet and calm setting, this impact is considered to be of **high** magnitude prior to mitigation. However, this potential impact could be readily managed by effective implementation of an EMPr and the significance of this impact would be reduced to **low** due to the implementation of mitigation measures.

TABLE 8: NOISE GENERATION

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Noise generation [NEGATIVE]	**High**	**Local**	**Short-term**	**Probable**	**Medium**	**Low**

Mitigation measures

Impacts of noise generation during construction in general could be mitigated by ensuring that all regulations relating to noise generation are observed and by restricting work to normal working hours. The following mitigation measures are also of relevance:

- Neighbouring landowners and lodges should be informed prior to any noisy activities taking place.
- No loud music is permitted on site.
- Noise suppression should be applied to all construction equipment.
- If noise levels at the boundaries of the site exceed 7dB above ambient levels, then the local health authorities are to be informed.
- Respond to community complaints with regard to noise generation and take reasonable action to eliminate and/or minimise the impact.
- Where complaints cannot be addressed to the satisfaction of all parties, then the Contractor will, upon instruction by the Project Manager, provide an independent and registered Noise Monitor to undertake a survey of the noise output levels. Recommendations to reduce noise to legislated levels must be implemented.

7.1.3 Generation of dust

Description of the potential impact

Construction activities are likely to result in the increased production of windblown dust and heavy moving vehicles could generate dust affecting adjacent owners and road users in the reserve.

Significance of the impact

The impacts associated with the generation of dust will be of short duration and local extent during the construction phase. With mitigation measures implemented, the significance of this potential impact will be reduced from medium to **low**.

TABLE 9: DUST GENERATION

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Dust generation **[NEGATIVE]**	**Medium**	**Local**	**Construction-term**	**Probable**	**Medium**	**Low**

Mitigation measures

- Dust pollution can be limited by using dust suppression methods such as water spraying.
- The use of delivery trucks during construction should be limited to travelling during the times as stipulated by the Timbavati Private Nature Reserve.
- Trucks should comply with the relevant legislation and should be restricted in terms of speed within the reserve.
- Building material and sand should be covered during transport to and from the site.

7.1.4 Generation of waste

Description of the potential impact

Construction waste is an on-going issue on a construction site. Accumulation of waste can lead to health and safety hazards. In light of this, any construction waste must be dealt with according to municipal and governmental regulations as well as the measures placed by the Timbavati Private Nature Reserve.

Significance of the impact

The impacts associated with the generation of construction waste will be of a medium magnitude, site specific and of short duration during the construction phase. Provided that mitigation measures are implemented, the significance of this potential impact is considered to be **low** post mitigation.

TABLE 10: WASTE GENERATION

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Waste generation **[NEGATIVE]**	**Medium**	**Site-specific**	**Construction-term**	**Definite**	**Medium**	**Low**

Mitigation measures

- A place for food preparation and eating must be designated within the construction site. Dry chemical toilets must be made available at a ratio of 1:15 at the construction site and must be cleaned and serviced regularly.
- The contractor may not dispose of any waste and/or construction debris by burning or by burying. An adequate number of appropriate refuse bins must be provided at the construction site for refuse and solid waste. These bins must be emptied on a daily basis into an appropriate containment vessel that should be located in a designated waste storage area. This waste should be removed regularly to a registered dumping site for disposal.
- All waste must be transported in an appropriate manner (e.g., plastic rubbish bags). A specific site should also be allocated for construction waste e.g. empty cement bags etc. A low temporary fence may be erected around such a site in order to contain the waste and assist the effective removal thereof from the site.
- Waste should be separated and stored separately on site until removal. Construction waste should be removed on a weekly basis. Limited amounts of non-hazardous rubble may be utilised as backfill in foundations that are to be capped to prevent any leaching occurring.
- Hazardous waste will be removed and taken to a registered hazardous waste disposal facility.

7.1.5 Impact on soil

Description of the potential impact

The construction process will disturb the soil surface and increase the possibility of soil erosion and sedimentation of downstream environments. Other activities which could have an impact on soil, include any spillage of hazardous substances. Hazardous substances such as oil, diesel etc., could be spilled while refuelling or using machinery, leading to the pollution of soil which can alter microbial processes and be toxic to soil organisms.

Significance of the impact

During establishment, soil could be impacted by the following:

- Erosion and sedimentation.
- Contamination with the use and possible spillage of hazardous substances.

The project area slightly slopes towards the watercourse (north of the development area), and for this reason the magnitude of erosion is considered to be **medium**. The impact will be of local extent and short-term duration during the construction period, and for this reason the impact is of **medium** significance prior to the implementation of mitigation measures.

The impact of soil pollution during construction is of **medium** magnitude, site specific and short duration and for this reason the impact is of **low** significance prior to the implementation of mitigation measures.

TABLE 11: IMPACT ON SOIL

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Erosion [NEGATIVE]	**Medium**	**Site-specific**	**Short-term**	**Probable**	**Low**	**Very Low**
Soil pollution [NEGATIVE]	**Medium**	**Site-specific**	**Short-term**	**Unlikely**	**Low**	**Very Low**

Mitigation measures

- Access roads are to be monitored and managed for erosion prevention.
- The site layout should be pointed out on site by the ECO before any vegetation slashing takes place. This will prevent unnecessary ground cover disturbance.
- Trampled or compacted areas should be ripped and re-vegetated by using locally indigenous plants when required.
- Areas requiring erosion control to be identified by the ECO. Instructions to be given to the contractor as required.
- Vehicle movement should be restricted to designated areas and not venture into the buffer area. Watercourses must be avoided, and a buffer implemented.
- Both camps work off a bucket-and-cup shower system. This ensures that there is never running water that might saturate soils or cause flow that might lead to erosion.

7.1.6 Impact on water resources

Description of the potential impact

During construction, pollutants may find their way into drainage channels and watercourses. Typical sources of pollution include oils and fuels from construction vehicles and construction materials such as cement, detergents, paints and other chemicals.

Working within a close proximity to watercourses could also increase the possibility of sedimentation of the watercourse and due to the proximity of the construction activities, the possibility of this impact occurring is likely and will require mitigation.

Significance of the impact

Management and education of all construction staff, together with the implementation of an appropriate EMPr at this site, would minimize the risk of hazardous spills which could impact the adjacent watercourse. This potential impact is therefore considered to be of **very low** significance with mitigation measures implemented.

In terms of sedimentation, the magnitude of the impact is medium, with a local extent and short-term duration. For this reason, the impact is rated to be of medium significance prior to the implementation of mitigation measures.

TABLE 12: IMPACT ON WATER RESOURCES

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Water pollution [NEGATIVE]	Low	Local	Short-term	Unlikely	Low	Very Low
Sedimentation [NEGATIVE]	Medium	Local	Short-term	Unlikely	Medium	Low

Mitigation measures

- Vehicle movement should be restricted to designated areas and not venture into the buffer area. Watercourses and drainage lines must be avoided, and a buffer implemented.
- In the event of a breakdown or emergency repair, any accidental spillage must be cleaned up or removed immediately.
- All construction equipment and machinery must be maintained in good order. Regular checks must be undertaken for leaks, and any found must be repaired immediately.
- Construction vehicles have to be parked in the construction camp area after working hours.

- The Site Environmental Officer/Lodge Manager must ensure that reasonable precautions are taken to prevent the pollution of the ground and water resources on and adjacent to the sites during the construction phase.
- No natural watercourse is to be used for the cleaning of tools or any other apparatus. This includes for purposes of bathing, or the washing of clothes etc. All washing operations will take place at a location where wastewater can be disposed of in an acceptable manner.
- The contractor must maintain good housekeeping practices that ensure that all work sites are kept tidy and litter free, ensuring no runoff of refuse into surrounding watercourses.
- No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment. All contaminated soil is to be excavated to the depth of contaminant penetration and disposed of at an appropriate landfill site.
- Areas where cement and concrete are handled should be bunded and suitable methods developed to contain any access water containing waste. Water and slurry from concrete mixing operations must be contained to prevent pollution of the surrounding areas.

7.1.7 Impact on heritage resources

Description of the potential impact

There was no evidence to show that the proposed site was of cultural significance. There were no heritage resources, including known archaeological or paleontological sites over 100 years old, and graves or structures older than 60 years. Despite this caution must be taken with regard to excavation of the site and possible disturbance of subsurface cultural relics. Furthermore, the public participation process, including site meetings, did not reveal any oral histories and cultural landscapes associated with the site.

Significance of the impacts

This potential impact is considered to be of **very low** significance after the implementation of mitigation measures due the low probability of finding heritage resources at the site during the short duration of the construction phase.

TABLE 13: IMPACT ON HERITAGE RESOURCES

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Impact on heritage resources [NEGATIVE]	**Medium**	**Site-specific**	**Short-term**	**Unlikely**	**Low**	**Very Low**

Mitigation measures

Distinct archaeological material or human remains may only be revealed during the development phase of the project. In such instance, the South African Heritage Resources Agency must be notified immediately, and a qualified archaeologist should be notified. This will also temporarily halt such activities until an archaeologist has assessed the situation. It should be noted that if such a situation occurs it may have further financial implications for the developer. If any human skeletal remains are revealed in the process all activity will be immediately halted and application made for an emergency rescue permit in terms of section 36 of the NHRA (25 of 1999) in order to exhume the remains.

7.1.8 Socio-economic Impact

Description of the potential impact

During the construction activities, various temporary job opportunities will be created. In terms of safety and security, there is always risk associated when working with machinery and therefore it is essential that all workers comply with the Health and Safety Act 85 of 1993.

Significance of the impacts

Based on the methodology detailed in **Section 6**, the following ratings have been assigned to the 'employment opportunities' and impact associated with health and safety of employees, respectively.

The job opportunities during the construction phase are of short duration and therefore the impact is only of **medium (+)** significance. In terms of the health and safety aspects of workforce, the significance of the impact has been rated to be of **low** significance after implementation of the mitigation measures due to the short construction timeframe. Mitigation measures must however be adhered to.

TABLE 14: SOCIO-ECONOMIC IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Job opportunities **[POSITIVE]**	**Medium**	**Local**	**Short-term**	**Definite**	**Low (+)**	**Medium (+)**
Health and Safety **[NEGATIVE]**	**Medium**	**Site-specific**	**Short-term**	**Probable**	**Medium**	**Low**

Mitigation measures

- The applicant and/or project manager must ensure that local residents receive preference for job opportunities where local labour might be required.
- It is imperative that all personnel adhere to the Occupational Health and Safety Act 85 of 1998 and that no personnel enter any other surrounding properties.

7.2 Operational Phase Impacts

During operation the activities are likely to result in the following environmental and socio-economic impacts:

- *Impact on soil.*
- *Impact on water resources.*
- *Socio-economic.*

7.2.1. Impact on soil

Description of the potential impact

One of the potential impacts that the Upgraded Family Camp may have on the receiving environment is that of erosion of surface soils and the subsequent sedimentation of downstream environments. Potential sedimentation of the adjacent water resource is therefore of particular concern.

Significance of the impact

Due to the topography and close proximity to a watercourse, the possibility of erosion and sedimentation occurring on site is of **medium** magnitude. For this reason, the impact is classified to be of **medium** significance prior to the implementation of mitigation measures. Mitigation measures to minimise the possibility of erosion is imperative and will reduce the significance to **low**.

TABLE 15: IMPACT ON SOIL

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Erosion **[NEGATIVE]**	**Medium**	**Local**	**Long-term**	**Probable**	**Medium**	**Low**

Mitigation measures

- Permanent measures must be taken on areas prone to erosion. These measures can include gabions or revegetation of riparian areas.
- As far as possible all cleared areas should be rehabilitated and re-vegetated with indigenous plant species.
- The camp floor plan must be adhered to and not extend past the perimeter of the set site. Guests are briefed to stick to pathways and not create new pathways or trample the natural vegetation interwoven in the campsites.

7.2.2. Impact on water resources

Description of the potential impact

Water will be supplied to the upgraded infrastructure via the existing borehole on the property. No activities are proposed within the adjacent watercourse; however, water resources could be impacted by the following:

- Excessive water use.
- Removal of riparian vegetation.
- Sedimentation due to erosion.

Significance of the impact

Water is a scarce resource in South Africa and therefore unsustainable abstraction can change the natural flow regime of watercourses in the area which will result in lower flows and reduced water table levels. The applicant does however not intend on extracting more than what is required and approved as per the Water Use License issued. As water is a scarce commodity, the impact is of **medium** significance and appropriate measures must be adhered to ensure proper management of water use.

The watercourse could also be affected negatively if activities were to take place within the riparian areas (i.e., removal riparian vegetation) that cause erosion and lead to sedimentation of the watercourse. The impact is therefore of **medium** significance if the mitigation measures are not adhered to.

TABLE 16: IMPACT ON WATER RESOURCES

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Water resource use [NEGATIVE]	**Medium**	**Site-specific**	**Long-term**	**Definite**	**Medium**	**Low**
Impact on water resources, sedimentation [NEGATIVE]	**Medium**	**Local**	**Long-term**	**Probable**	**Medium**	**Low**

Mitigation measures

- Water should be used responsibly, and water abstraction must be regulated and monitored.
- No activities may take place within riparian/buffer zones and all cleared areas should be rehabilitated and re-vegetated with indigenous plant species.

7.2.3. Socio-economic Impact

Description of the potential impact

The operation of the Upgraded Family Camp will add further positive socio-economic opportunities to the local community (both direct and indirect benefit). The proposed development corresponds with current land use objectives and it is anticipated that there will be a positive impact to community in the form of additional employment opportunities being created.

Significance of the impact

As the activities only involves the upgrade of an existing facility, the amount of new and additional job opportunities being created will be limited. Based on the methodology detailed in **Section 6**, the following ratings have been assigned to the 'employment opportunities' impact before and after mitigation. As job opportunities are limited, the impact is of **medium (+)** significance.

TABLE 17: SOCIO-ECONOMIC IMPACT

IMPACT	BEFORE MITIGATION					AFTER MITIGATION
	Magnitude	Extent	Duration	Probability	Impact Rating	Impact Rating
Job opportunities **[POSITIVE]**	**Medium**	**Local**	**Long-term**	**Definite**	**Medium (+)**	**Medium (+)**

Mitigation measures

Creating jobs and business opportunities for the local community will have a positive impact. No mitigation measures would be required to further enhance this impact; however, the applicant must ensure that local residents receive preference for job opportunities.

7.3 Environmental Impact Statement

The table below summarises the impacts identified and assessed for the construction activities proposed for the project:

TABLE 18: ENVIRONMENTAL IMPACT STATEMENT

IMPACT	SIGNIFICANCE BEFORE MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION MEASURES
Construction Phase Impacts		
Loss of Vegetation	Low	Very Low
Loss and Fragmentation of Habitat	Medium	Low
Generation of Noise	Medium	Low
Generation of Dust	Medium	Low
Generation of Waste	Medium	Low
Erosion	Low	Very Low
Soil Pollution	Low	Very Low
Water Pollution	Low	Very Low
Sedimentation	Medium	Low
Impact on Heritage Resources	Low	Very Low
Job opportunities	Low (+)	Medium (+)
Health and Safety	Medium	Low
Operational Phase Impacts		
Erosion	Medium	Low
Water Resource Use	Medium	Low
Impact on water resources, sedimentation	Medium	Low
Job opportunities	Medium (+)	Medium (+)

8. CONCLUSION AND WAY FORWARD

8.1 Assumptions and Limitations

In undertaking this investigation and compiling the Draft Basic Assessment Report, the following has been assumed:

- The information provided by the proponent is accurate and unbiased, and no information that could change the outcome of the Environmental Authorisation process has been withheld.
- The scope of this investigation is limited to assessing the environmental impacts associated with the upgrades and operation of the Family Camp area.
- The conclusion and recommendations proposed are based solely on the information, scope of works as agreed with the proponent.

8.2 Conclusion

The essence of all environmental assessment processes is aimed at ensuring informed decision-making and environmental accountability. Furthermore, it assists in achieving environmentally sound and sustainable development. The impact assessment for this project has been undertaken in line with the requirements prescribed in the NEMA regulations.

The assessment of the possible impacts associated with the upgrades and operational activities, concluded that the impact on the surrounding environment is of **low significance** after the implementation of mitigation measures. Recommendations have however been made to address the impacts which could affect the biophysical and socio-economic environment. Recommendations for the mitigation of impacts are included within Section 7 and also the Draft Environmental Management Plan attached.

The significance of the potential environmental (biophysical and social) impacts associated with the proposed project are discussed in detail under **Section 7**.

It is the opinion of the EAP that the EA for this project should be granted, and the proposed mitigation measures included as the conditions of the authorisation.

8.2 Way Forward

The next steps for the Basic Assessment process will be to distribute the Draft Basic Assessment Report and make it available to the public (including the registered I&APs) and Organs of State for a period of 30 days, during which the Competent Authority (DARDLEA) will also be given the opportunity to provide comments on the report. After the 30-day comment period, all comments will be addressed by the EAP and incorporated within the Final Basic Assessment Report to be submitted to the DARDLEA for decision making. All registered I&APs will be notified of the decision and will be given an opportunity to appeal as per the NEMA requirements.

9. REFERENCES

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