

COMPILED BY:
NKULULEKO
ENVIRONMENTAL
&
DEVELOPMENTAL
AGENCY

P.O. BOX 210
MATSULU
1203
TEL: 072 401 7028
FAX: 086 603 4915

mail:nedaresources@gmail.com



**ENVIRONMENTAL MANAGEMENT PLAN FOR A 24 G APPLICATION
SUBMITTED IN TERMS OF THE NATIONAL ENVIRONMENTAL
MANAGEMENT AC (Act 107 of 1998) AS AMENDED**

**ENVIRONMENTAL MANAGEMENT PROGRAMME
FOR**

**Mr. Phaskani Msiska
@ THE VILLAGE LODGE**

**PREPARED FOR:
Mr. Phaskani Msiska
@ The Village Lodge**

**P O Box 2601
Steiltes
Nelspruit**

**Portion 1/125 JU
Kingstonevale Farm,
Nelspruit**

DATE: 8 MAY 2019

1. INTRODUCTION

NKULULEKO ENVIRONMENT AND DEVELOPMENT has been appointed by Mr. Phaskani Msiska, as the independent Environmental Assessment Practitioner (EAP) facilitate a 24G application for the existing @ The Village Lodge The Village Lodge is a project championed by a team of committed and determined individuals who have been inspired by a feasibility study which showed that there is a demand for an accommodation and cultural village facility in and around the area of Mkhuhlu that advance and multiply the Community Benefit Sharing of revenue generated by the existence of the Natural and Cultural Conservation activities in the area on Mkhuhlu and in particular from the Kruger National Park.

2. BACKGROUND

Mr. Msiska as the founders of @ the Village lodge is aware that that many cultural village projects have been initiated over the last few years across the country, and have been arranged by tribal authorities who want to showcase their traditions and cultural heritage. Tourists have in turn, shown a growing interest in cultural villages. It was on the basis of this niche market observation that which indicated that there is a market demand for a facility that will be a landmark showcasing local community's rich traditional heritage. The @ the village initiative' venture is a direct response to the local needs to satisfy the demand for local cultural facility that promote traditional cultural interaction with modern trends in hospitality and entertainment sector. The @ the Village lodge is set to fulfil these needs of the immediate community and the global tourism market that visit the area.

The Cultural village is expected to increase the prospects of tourists visiting the establishment and surrounding areas especially those who visit the Kruger National Park. Furthermore, the increase in tourist will benefit other businesses in the surrounding area. At its full potential the project is expected to create more than 30 job opportunities and businesses in the local area. This will include permanent workers and casual workers. Direct spin off to local community will be through their integration in the grand package services rendered by the facility where they render dance troupes and craftspeople, who will be able to promote their heritage and small businesses. It is expected that the project will create opportunities for SMMEs in the village for the supply products and services to the project. As the proposed village is expected to be expanded it is expected that during the expansion construction activities and operational phase of the development goods and services will be sourced from the local community. The employment policy of @ The Village Lodge favours the empowerment of disadvantaged groups of the community, especially women and youth. The development will result in skills transfer from experienced members to those less experienced. Lastly, the project will contribute towards the conservation of the environment and promotion of the cultural heritage of the Village

3. LOCATION OF THE ACTIVITY

The Bushbuckridge local municipality (MP325) is a part of the Ehlanzeni District Municipality (DC32) situated in Mpumalanga Province in South Africa. It is divided into 11 regions and 32 wards. The main townships are Mkhuhlu, Bushbuckridge, Thulamahashe and Acornhoek. The municipality is bordered to the north by Maruleng Local Municipality in the Mopani district Municipality of Limpopo Province with Hoedspruit being the closest centre. Most of the residents of the municipality live on these townships. The size of the municipal area is 10, 270 km² in the north-eastern part of the Mpumalanga Province. The @ the village lodge is located adjacent to a New Traffic College on R536 Paul Kruger Road Farm 295 Cork KU, Mkhuhlu, Bushbuckridge, 1246

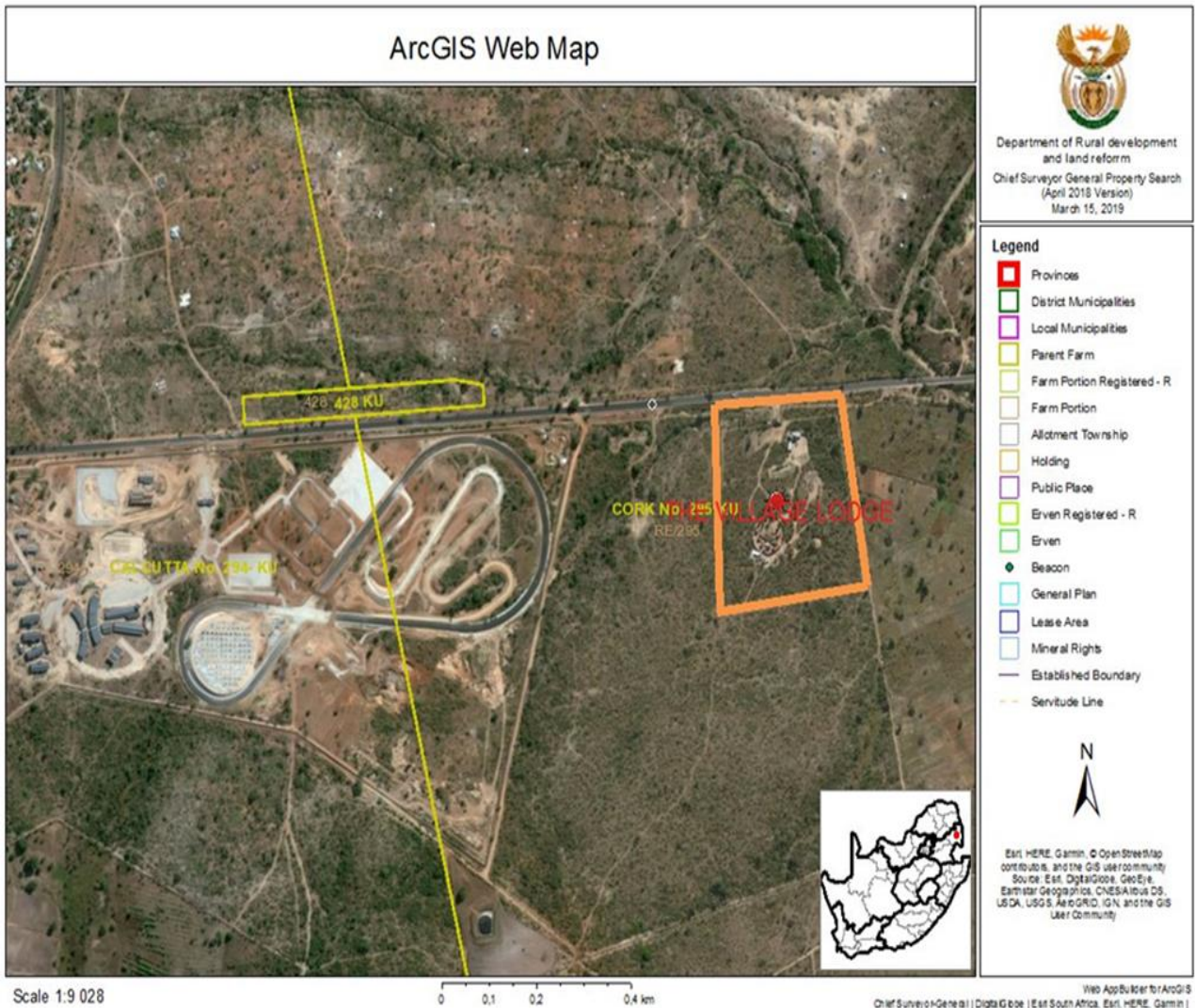


Figure 1: Aerial photograph depicting location of the proposed activity (GoogleEarth, 2016)

4. OBJECTIVE OF THIS EMPR

This document is intended to serve as a guideline to be used by the @ the Village Lodge and any person/s acting on behalf of the @the Village Lodge during the expansion construction phase and the operation of the @ the village lodge. This document provides measures that must (where practical and feasible) be implemented to ensure that any environmental degradation that may be associated with the existing activities that were commence with in terms of section Section 24F of the NEMA (Act 1070 of 1998), the ongoing and future operation of the lodge and proposed expansion activities are avoided, or where such impacts cannot be avoided entirely, are minimized and mitigated appropriately.

The EMPr has been prepared in accordance with the requirements of an EMPr as specified in the Environmental Impact Assessment Regulations, 2017 (GN No. R. 326 of 2017), and with reference to the “Guidelines for Environmental Management Programmes” published by the Department of Environmental Affairs and Development Planning (2005). It is important to note that the EMPr is not designed to manage the physical establishment of the development per se, but should rather be seen as a tool which can be used to manage the environmental impacts of the development. The rehabilitation, mitigation, management and monitoring measures prescribed in this EMPr must be seen as binding to the @ the Village, and any person acting on its behalf, including but not limited to agents, employees, associates, guests or any person rendering a service or using the lodge

The Constitution of the Republic of South Africa (Act No. 108 of 1996) provide that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for benefit of present and future generations, through reasonable legislation and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while prompting justifiable economic and social development. The needs of the environment as well as affected parties must thus be integrated into overall project management. The Environmental Management Programme (EMPr) provides a tool for meeting this objective. It also ensures that management of construction activities meets the requirements of existing environmental legislation.

5. APPLICANTION DETAILS

Mr. P Msiska appointed Nkululeko Environment and Development (hereafter referred to as NEDA) as the independent Environmental Assessment Practitioner (EAP) to lodge a 24G application for activities that were commenced with without prior authorization. This EMP is compiled a mitigating tool for the identified contravention of the EIA Regulations and a tool to be used to guide future activities on site.

5.1 The details of the applicant are as follows

Mr. Phaskani Msiska
@ The Village Lodge
2012/003676/07
P O Box 2601
Steiltes

5.2 The details of the Environmental Assessment Practitioner (EAP)

NEDA
PO Box 210
Matsulu
1203
Cell Number +27 72 401 7028
Email Address nedaresourcers@gmail.com

6. NEDA PROFILE

NEDA is a dynamic black owned and managed environment and development company that promotes the principles of agenda 21 which are now referred to as millennium Development Goals as espoused by the United Nations Earth Summit of 1992. NEDA offers a wide range of cutting edge consultancy services to various spheres of government, private sector and communities to ensure that they stay in the forefront of sustainable development, while applying economically, environmentally and technologically sound solutions. The company has the necessary amount of experience in the field of Environmental Impact Assessment, Strategic Environmental Assessment, Spatial development Framework, Environmental Management plans, Water Use, Environmental Auditing and Economic Development Planning.

6.1 ABOUT THIS REPORT THIS REPORT

This report is compiled by Mbavhalelo Eulenda Mabuli reviewed by Mr. Doctor Mthethwa.

6.1.1 Mbavhalelo Eulenda Mabuli

Mbavhalelo Eulenda Mabuli holds a Bachelor of Environmental Science Honours (GIS) with specialisation in Geography and Geo-Information Science and Remote Sensing. Mbavhalelo is competent in data gathering, spatial modeling, impact assessment, and calculation of impact magnitude. She is skilled in the process of project description and linking the project to its geographical context, establishing the environmental baseline conditions, including biophysical inventories (for example, vegetation, habitat, land use, etc.), hydrology, soils, archaeological and historical resources, land ownership, topography, roads, utilities, and others and in overlaying potential project pollutant

distributions within a resource maps and to quantify impact magnitude. Based on this quantification of impact magnitude her skills can be deployed in

Devising most best practices in mitigation and development control activities over time.

6.1.2 Doctor Mthethwa

Mr. D Mthethwa. Mr. Mthethwa hold a MM Degree in public and Development Management and a Post Graduate Certificates in Environmental and Water Law all obtained from the University of Witwatersrand. Over the past 20 years he has worked on a number of Environmental initiatives covering Research, Environmental Policy, and Environmental Impact Assessments. Through his previous in work in government and later as consulted he has gained tremendous experience in Ecology, Law and Project Management.

7. LEGAL REQUIREMENTS

Legislation and guidelines that will be considered during the Environmental Monitoring process are as follows:

Nature Conservation ordinance, 1974 (Act no 19 of 1974)
Conservation of Agricultural Resources Act, 1983 (Act no 43 of 1983)
Division of land ordinance, 1986 (Ordinance 20 of 1986)
Environmental Conservation Act, (Act no 73 of 1986)
Physical Planning Act, 1991 (Act no 125 of 1991)
Environmental Management Program (EMPr)
Occupational Health and Safety Act, 1993 (Act no 85 of 1993)
Development and Facility Act, 1995 – DFA (Act no 67 of 1995)
The Constitution of the Republic of South Africa, 1996 (Act No 108 of 1996)
National Building Regulations and Building Standards Act, 1997 (Act no 103 of 1997)
National Environmental Management Act 1998 - NEMA (Act No 107 of 1998)
Local Government: Municipal Structures Act, 1998 (Act no 117 of 1998)
Mpumalanga Conservation Act, 1998 (Act 10 of 1998)
National Forest Act, 1998 (Act No 84 of 1998)
National Water Act, 1998 (Act No 36 of 1998)
National Heritage and Resources Act, 1999 (Act no 25 of 1999)
Promotion of Access to Information Act, 2000 (Act No2 of 2000)
National Health Act, 2003 (Act No 61 of 2003)
National Environmental Management: Biodiversity Act, 2004 (Act no 10 of 2004)
National Environmental Management Act (NEMA) (Act No 107 of 1998, as amended);
National Environmental Management Biodiversity Act (Act 10 of 2004);
National Environmental Management: Waste Act (Act 59 of 2008);

National Forest Act (Act No 84 of 1998);
National Heritage Resources Act (Act No 25 of 1999);
Occupational Health and Safety Act (Act 85 of 1993);

8. IMPLEMENTATION RESPONSIBILITIES OF THE EMPR

8.1 The Applicant

The applicant is responsible for ensuring that the activity is implemented according to the requirements of the EMPr. The applicant must ensure that relevant professionals are appointed to perform functions as required by the authorities and legislation. The applicant will have the following responsibilities:

- To ensure that there is sufficient allocation of resources to the professional role players to perform their tasks in terms of the EMPr;
- In the event that the Environment is negatively affected, the applicant will be responsible for rehabilitation and restoring the affected areas to an acceptable level;
- The applicant must include the EMPr with all tender and contractual documents in order to ensure that all parties involved are bound to the terms of the EMPr; and
- The applicant must provide the all contractors with a copy of the EMPr and any other relevant documentation or supporting documents.

8.2 The Contractor/s

The contractor is bound to the terms and conditions of the EMPr by way of the contract with the applicant. The contractor must be familiar with the terms of the EMPr before commencement of the activities on site and must request clarification on any issues that are unclear. The main responsibilities of the contractor are as follows:

- The contractor must comply with all the terms and conditions of the EMPr and must ensure that all sub-contractors are inducted with the EMPr and comply with the terms of the EMPr;
- The contractor must attend a site inspection and orientation session with the ECO to identify and be informed of the sensitive elements of the site and take cognizance of the boundaries of the construction area.
- The contractor must ensure that the construction crew attends an environmental briefing and training session presented by the ECO prior to commencing activities on site; and
- The contractor must adhere to all verbal and written orders given by the Environmental Control Officer (ECO) or other responsible persons (project manager or site engineer) in terms of the EMPr.

8.3 Services and Duties of the Environment Compliance Officer (ECO)

The Environmental Control Officer (ECO) is an independent person, appointed by the applicant, who must monitor compliance with the environmental management programme. The main responsibilities and duties of the ECO are as follows:

- To ensure that the site environment is not negatively affected by the proposed activities and that minimal environmental damage is done during construction and adequate measures are emplaced to ensure that future operations and maintenance does not significantly impact on the environment;
- The ECO will oversee the environmental aspects of the development and ensure compliance with the EMPr;
- The ECO shall liaise with relevant authorities and keep records of all correspondence with external interested and affected parties;
- To ensure that the proponent, construction team, the operational and maintenance workers are acquainted with their responsibilities;
- To ensure compliance with regulatory authorities requirements;
- To respond to changes in the project implementation not considered during the assessment phase, and respond to unforeseen events;
- To verify environmental performance through information on impacts as they occur; and
- To establish proper communication channels and provide feedback for continual improvement.

8.4.a) Mandate and Reporting Duties of the ECO

One of the main responsibilities of the ECO is reporting to the competent authority which will be in form of monthly audit reports. These reports will consist of descriptions of the general state of the site and will include specific reference to non-compliance and corrective measures to address non-compliance and significant impacts. Site inspections will therefore form the basis for the ECO to compile these reports. In order to perform these duties efficiently, the ECO has the right:

- To enter the site and undertake monitoring and auditing at all times; and
- To appoint the necessary specialists in order to monitor- or take corrective measures to address significant impacts. An Environmental Log sheet will be kept to keep record of any non-compliance, incidents and impacts that have significant impacts on the environment.

8.3.a) Liaising duties of the ECO

In order to fulfil his/her duties the ECO will have to participate at all levels of the project. An integral part of this will be liaising with the following institutions/persons:

- Competent and relevant authorities;

- The applicant and contractor; and
- All external Interested and Affected Parties.

9. ENVIRONMENTAL INCIDENTS

In order for the EMPr to be efficient in case of any environmental incidents, the following criteria should be adhered to:

- In the event of a significant environmental incident occurring the contractor must notify the ECO and/or the authorities within 24 hours of occurrence;
- Investigate the cause of the incident and compile an environmental incident report;
- Take corrective measures to mitigate the incident;
- Rehabilitate any residual damage to the environment; and
- Introduce alternative operating procedures and/or technology to prevent a recurrence of the incident.

10. CONSTRAINTS AND AVAILABILITY OF RESOURCES

The relevant basic documentation (including copies of the Authorization and EMPr) as well as correspondence must be made available to the ECO in order to compile the necessary documentation for the environmental monitoring. Any constraints should be recorded.

11. ENVIRONMENTAL IMPACT MANAGEMENT

11.1 PLANNING AND DESIGN PHASE

Since this is an existing activity no direct environmental impacts are associated with previous planning except for future planned expansions activities. However Since Mr. Msiska plan to expand the facility in the future, poor planning or inappropriate design decisions in this phase may result in environmental impacts arising during subsequent phases of the project. Planning and design activities must therefore take into account the environmental constraints and opportunities identified in 24G application process , in order to avoid or minimize the potential future impacts of the development. Proper planning is also essential to ensure that adequate provision is made to implement the environmental requirements of this EMPr.

The environmental management objectives (goals) during this phase are to:

- Appoint an Environmental Control Officer.
- Complete the detailed design of the structures and detailed site layout plan.
- Update the EMPr (if necessary).

These environmental management objectives, as well as the management actions that must be implemented in order to achieve the desired objective and avoid/minimise potential impacts are discussed in more detail below.

OBJECTIVE 1: APPOINTMENT OF AN ENVIRONMENTAL CONTROL OFFICER

<i>Impact Management Objective: To appoint a suitably qualified and experienced Environmental Control Officer.</i>		
Potential impact to avoid	Failure to appoint an ECO will result in non-compliance with the anticipated Environmental Authorization and the requirements of the EMPr.	
Impact Management Outcome	The conditions of Environmental Authorization and the requirements of the EMPr are implemented and monitored during all phases of the development and operation of the lodge, which will promote sound environmental management on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period

<p>A suitably qualified and experienced Environmental Control Officer must be appointed before any activities commence onsite.</p> <p>The appointed ECO must adhere to the requirements stated in any requirements specified in the Section 24G Environmental Authorisation.</p> <p>The appointed ECO must be advised of the construction start date, before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of construction workers.</p>		Applicant	During design phase
Performance Indicator	A qualified ECO is appointed prior to the commencement of any construction activities (including pre-construction set-up activities) onsite.		

OBJECTIVE 2: DETAILED DESIGN AND SITE LAYOUT PLAN

Impact Management Objective: To compile a detailed design and site layout plan that adheres to the conditions of the Section 24G Environmental Authorisation.			
Potential impact to avoid	<p>Substantial deviation from the conceptual layout plan may result in:</p> <p>Non-compliance with the Section 24 G Environmental Authorisation during expansion construction phase.</p> <p>Triggering of additional listed activities not authorised in the Environmental Authorisation.</p> <p>An increase in the severity of the impacts identified or may result in new impacts not previously assessed and not provided for in the EMPr, resulting in environmental degradation.</p>		
Impact Management Outcome	Development is compliant with the Section 24 G Environmental Authorisation and the EMPr.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure		Responsible party	Time period

<p>The applicant must provide a detailed site lay out plan</p> <p>The final detailed design & layout must adhere to the conceptual layout assessed in the 24G application</p> <p>The final detailed design & layout must adhere to the conditions of the 24G Environmental Authorization (EA).</p> <p>If the final detailed design differs from that assessed during the 24G application, the revised layout must be assessed by an Environmental Consultant and the received 24 G EA must be amended by the Competent Authority before proceeding.</p> <p>Interested & Affected Parties may need to be provided with an opportunity to comment on any proposed amendment to the EA.</p>		Applicant	During design phase
Performance Indicator	Detailed designs and site layout plans that adhere to the conditions of the 24G Application EA and EMPr are finalized prior to the commencement of expansion construction and continued operation of the @the village lodge.		

OBJECTIVE 3: UPDATE ENVIRONMENTAL MANAGEMENT PROGRAMME

The 24G Environmental authorization issued for @ the village lodge may require certain amendments to be applied to the EMPr. In addition, the final site layout and detailed design may also necessitate the amendment of the EMPr, in order to ensure that the development is accommodated in the EMPr.

<i>Impact Management Objective: To ensure the EMPr adheres to the requirements of the 24G Environmental Authorisation and makes provision for the final detailed site layout.</i>			
Potential impact to avoid		Failure to update the EMPr in accordance with conditions specified in the 24G EA may result in non-compliance with the EA.	
Impact Management Outcome		Failure to update the EMPr to accommodate the final detailed site layout may result in non-compliance with the EA	
Impact Management Outcome		Good environmental management is promoted on site.	
IMPACT MANAGEMENT ACTIONS			
Mitigation measure		Responsible party	Time period

<p>An independent Environmental Consultant must be appointed to amend the EMPr.</p> <p>All amendments to the EMPr specified in the EA must be applied to the EMPr unless agreed otherwise in writing with the Competent Authority.</p> <p>Amendments to the EMPr must be approved in writing by the Competent Authority.</p> <p>Public participation may be required on the proposed EMPr amendments. The Competent Authority must be consulted for clarity on these requirements.</p>	<p>ECO</p>	<p>During design phase</p>
<p>Performance Indicator</p>	<p>An updated EMPr that adheres to the conditions of the EA and that reflects the requirements of the final detailed site layout is approved by the Competent Authority prior to commencing activities on site.</p>	

**11.2 ENVIRONMENTAL IMPACT MANAGEMENT
PRE-CONSTRUCTION PHASE**

Proper set-up during the pre-construction phase for the activity expansion can set the foundation for good environmental management during the active construction phase to follow, and can avoid potential impacts from arising at a later date.

The **Impact Management Objectives** for this phase of the project relate to:

- Demarcation of no-go areas and working areas.
- Establishment of site camp and associated site facilities.
- Pre-construction ECO visit.

OBJECTIVE 1: IDENTIFY & DEMARCATÉ NO-GO AND WORKING AREAS

<i>Impact Management Objective: Identify and demarcate no-go areas, working areas and site facilities.</i>		
Potential impact to avoid	Insensitive location of working areas and site facilities may result in environmental impacts during construction phase. Failure to accurately demarcate working areas may result in increased disturbance footprint. Failure to demarcate no-go areas may result in disturbance to these areas during construction.	
Impact Management Outcome	Future construction activities will be restricted to within the designated areas & environmentally sensitive areas (no-go areas) will be protected from disturbance.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
The environmentally sensitive areas must be identified and be designated as no-go areas if practically possible. Demarcation of working area and no-go areas must be done in accordance with this EMPr. Site camp facilities must be situated as far away from the No-Go areas as possible.	Contractor	Pre-construction phase

Performance Indicator	No-go areas, working areas and areas for site camp facilities have been identified and appropriately demarcated to the satisfaction of the ECO, before construction activities commence on site.
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OBJECTIVE 2: ESTABLISH ENVIRONMENTALLY SENSITIVE SITE CAMP & SITE FACILITIES

<i>Impact Management Objective: To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.</i>		
Potential impact to avoid	<p>Inappropriate siting of site camp facilities may result in impacts to sensitive resources (e.g. contaminated run-off from refueling area may flow into the watercourse)</p> <p>Failure to properly demarcate and set up site facilities may result in disorganized construction activities and unnecessary disturbance to the site.</p> <p>Failure to provide the necessary site facilities and/or failure to equip these facilities with the necessary equipment/materials may impede good environmental management & compromise ability to respond to emergencies.</p>	
Impact Management Outcome	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
The site camp and site facilities must be provided on site.	Contractor	Pre-construction
The site camp and associated site facilities must be set-up and managed in accordance with the general environmental management measures specified in this EMPr.		
Performance Indicator	Appropriate, well organised and properly equipped site facilities are available on site prior to commencement of expansion construction activities. The location and set up of the facilities does not impact on the natural resources.	

OBJECTIVE 3: PRE-CONSTRUCTION ECO INSPECTION

It is essential that the appointed ECO be advised of the intended construction start date before construction activities commence on site, so that the ECO can conduct an initial site inspection to assess the pre-commencement condition of the site. The ECO can also advise on the appropriate siting and demarcation of the site facilities, and the identification and demarcation of the no-go areas. The ECO may also conduct the first round of environmental awareness training at this stage, if the construction workers are present on site.

Impact Management Objective: Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site.			
Potential impact to avoid	Failure to appoint ECO or to notify ECO of commencement prior to commencement may result in non-compliance with the EA. If a pre-commencement ECO inspection is not performed, the Construction Contractor may be held liable for environmental degradation that took place prior to the Contractor commencing work on site		
Impact Management Outcome	Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases. Site facilities are appropriately located on site. Construction workers receive environmental awareness training before commencing work on site.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
The appointed ECO must be advised of the construction start date, before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of construction workers.	Contractor	Start of construction phase	
Performance Indicator	A pre-commencement site inspection is conducted by the appointed ECO before construction activities commence on site.		

11.3 ENVIRONMENTAL IMPACT MANAGEMENT CONSTRUCTION PHASE

A number of potential environmental impacts may arise during the expansion of the lodge. Environmental Management objectives and actions that will prevent the potential impacts from arising and or where avoidance is not possible, that will minimize and mitigate the impact – are provided in this section. The environmental management actions and mitigation measures prescribed in this section must be implemented throughout the construction phase, and must be implemented in conjunction with the general management measures specified in this EMPr as well as any other conditions stated in the Environmental Authorisation. The Environmental Control Officer must monitor and enforce the implementation of the relevant environmental management measures, and may provide guidance on the implementation of these environmental management measures as and when required.

The environmental management objectives (goals) for the expansion phase are:

- Prevent soil erosion
- Minimise disruption to natural river flow
- Prevent alien invasive plant species establishment
- Prevent pollution and surface water contamination
- Protection of aquatic ecosystem
- Protection of terrestrial ecosystem (fauna and vegetation)
- Job creation
- Cultural and Heritage Resource management
- Noise impact management
- Visual impact management
- Dust impact management

The environmental management actions that must be implemented in order to achieve the desired objectives and avoid/minimise potential impacts are discussed in more detail in the sections below.

OBJECTIVE 1: PREVENT SOIL EROSION

Impact Management Objective: To prevent soil loss on site and prevent increased turbidity / sediment load in watercourses.		
Potential impact to avoid	<p>Areas disturbed and/or cleared of vegetation (work corridor) during construction may be vulnerable to increased water and wind erosion.</p> <p>Stockpiles of soil (topsoil/subsoil) at the site may be vulnerable to wind/water erosion.</p> <p>Increased soil erosion may increase turbidity/ sediment load in watercourses, which may impact aquatic biota and habitats</p>	
Impact Management Outcome	Soil erosion in and near onsite is kept to a minimum and the aquatic systems are not impacted significantly as a result of soil erosion.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>Cleared areas and any other area susceptible to erosion must be provided with a suitable cover as soon as possible and/or stabilised via the implementation of appropriate erosion control measures. This may include use of cut-off drains, temporary drainage channels, brush-packing, mulching, planting or sodding, use of environmentally benign soil binders, use of geo-textile or other coverings.</p> <p>The appropriate measures must be selected by the contractor in consultation with the ECO.</p> <p>Stockpiles of topsoil & spoil material must be protected from wind & water erosion (e.g. covering with anchovy nets, shade cloth or similar).</p> <p>Stockpiles of earth material may not be located within the watercourses or any storm-water drainage pathways and must be outside of the reach of potential flood waters.</p> <p>Only the minimum area required to accommodate construction may be cleared of vegetation, to limit unnecessary exposure of surfaces.</p> <p>Site camps, material stockpiles and other facilities must be located on already transformed/ disturbed areas on surrounding agricultural land (e.g. at existing shed/ storage facilities).</p>	Contractor	Construction phase

All disturbed areas must be rehabilitated after construction to the satisfaction of the Environmental Control Officer, (e.g. ripping hardened surfaces, infilling of any erosion gulleys, brush packing, reseeding etc.).		
Performance Indicator	The watercourses are not significantly impacted as a result of soil erosion.	

OBJECTIVE 2: MINIMISE DISRUPTION TO NATURAL WATER FLOW

Impact Management Objective: To ensure that construction activities do not significantly impact the natural flow regime or water quality of the watercourses.		
Potential impact to avoid	Construction activities may impede/alter water flow and impact downstream ecosystems, biota and water users.	
Impact Management Outcome	Construction activities and the manner in which water flow is diverted do not significantly impede or alter the natural flow of water in the watercourses at this point.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>All excavated materials must be removed as speedily as possible. If this is not possible, storm water must be re-routed around excavated materials using temporary measures such as sandbags, retaining walls, pumps, silt curtains, cut-off trenches and PVC pipe.</p> <p>All stockpiled material must be used in backfilling or removed from the site.</p> <p>Vigilance must be maintained with regard to the passage of storm water in and around construction areas.</p> <p>Water backing up behind stockpiled material must be re-routed into natural drainagelines.</p> <p>Prior to construction, a method statement indicating how the water flow will be temporarily diverted (or excluded from the working area) must be submitted to the appointed ECO.</p> <p>On completion of the construction phase, restore and re-contour all construction areas to conform to the original drainage system.</p> <p>Rubble and debris from construction activities must be removed after construction is complete so as not to impede flow in the river.</p>	Contractor	Construction phase

No dumping of soil and / or any other material must take place within the watercourses.			
The footprint of disturbance must be kept to a minimum.			
Performance Indicator	The natural flow of water in the watercourses is not impeded during the construction phase.		

OBJECTIVE 3: PREVENT POLLUTION AND SOIL/ WATER CONTAMINATION

<i>Impact Management Objective: To prevent environmental pollution and contamination of soil and water resources</i>			
Potential impact to avoid	Fuel, oil, lubricant or other pollutants may leak from vehicles/ machinery and contaminate soil, surface water and/or groundwater. Spills of hazardous substances may contaminate environment. Septic tank may leak. Contaminated run-off from the site or site camp facilities may pollute soil or water resources. Waste (solid or liquid) from the site may be blown or washed into surrounding environment. Contamination of soil or water may impact surrounding and downstream land/water users, biota and livestock.		
Impact Management Outcome	The environment (including soil, surface water and groundwater) is not contaminated.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
Vehicles and machinery must be in good working order and must be regularly inspected for leaks. If a vehicle or machinery is leaking pollutants it must be removed from any unlined or permeable surface and taken to an appropriate location for repair. Repairs to vehicles/ machinery must not take place in the riparian zone, except in emergencies. Drip trays must be utilized for vehicle/ machinery maintenance on site, where there is a risk of fuel/ oil/ lubricant spillage.	Contractor	Construction phase	

<p>Drip trays must be placed under generators (if used on site) and any other machinery on site that utilises fuel/ lubricant</p> <p>A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site.</p> <p>Soil contaminated by spilled oil/ fuel/ lubricant must be excavated and disposed of in the hazardous waste bin.</p> <p>Vehicles/ machinery must avoid entering the river unless strictly required for construction.</p> <p>Vehicles and machinery must be kept in the site camp (out of riparian zone) when not in use.</p> <p>Waste bins (with secure lids) for hazardous waste and general waste must be provided on site. These must be kept at the site camp on an impermeable surface out of the riparian zone.</p> <p>Waste (including litter, building waste, oily rags etc.) must be placed in the appropriate bins.</p> <p>Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.</p> <p>Waste may not be buried on site.</p> <p>Bins must be emptied regularly and the waste disposed of at an appropriate, licensed facility.</p> <p>Bins must not be allowed to overflow.</p> <p>Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off. If necessary, bitem lined detention ponds (or similar) must be constructed to catch the runoff from batching areas.</p> <p>Once the water content of the cement water/slurry has evaporated or filtered into the ground, the dried cement must be scraped out of the detention pond and disposed of at an appropriate disposal facility.</p> <p>Cement batching must take place on already transformed areas at the site or site camp (ideally outside of riparian zone), or at another location of low environmental sensitivity as agreed with the ECO.</p> <p>Unused cement bags must be stored in such a way that they will be protected from rain.</p> <p>Empty cement bags must not be left lying on the ground and must be disposed of in the appropriate waste bin.</p>		
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<p>Washing of excess cement/concrete into the ground is not allowed. All excess concrete/ cement must be removed from site and disposed of at an appropriate location.</p> <p>Materials, fuels and other chemicals and hazardous substances required during construction must be stored according to the manufacturer's product-storage requirements, which may include a covered, waterproof bunded housing structure.</p> <p>Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs must additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases.</p> <p>Hazardous chemicals and fuels must be stored outside of the riparian zone on bunded, impermeable surfaces with sufficient capacity to hold at least 110% of the capacity of the storage tanks.</p> <p>A dedicated area for the storage of hazardous materials and waste must be provided for in the site camp</p> <p>The ablution facilities must have a closed system and must not be linked to the river in any way. The ablution facilities must also be serviced regularly.</p> <p>Care must be taken to prevent spillages when moving or servicing septic tank</p>		
<p>Performance Indicator</p>	<p>No traces of pollutants on the water resources and the natural flows of the watercourses are not impeded during the construction phase.</p>	

OBJECTIVE 4: PROTECTION OF AQUATIC ECOSYSTEM

<p><i>Impact Management Objective: To ensure that the aquatic ecosystem is not significantly impacted on.</i></p>	
<p>Potential impact to avoid</p>	<p>Physical disturbance to aquatic ecosystems during the construction phase.</p> <p>Construction activities may increase sedimentation/turbidity in the watercourses, which may impact biota and instream habitats.</p> <p>Run-off (erosion) from denuded/ disturbed surfaces may increase sediment load and turbidity in river.</p>

Impact Management Outcome	Construction activities do not significantly impact on the aquatic ecosystem.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>Construction personnel, equipment and materials must be limited to the minimal practical working distance from the road.</p> <p>The area outside of the working area must be treated as a 'No-go' Area.</p> <p>All equipment and materials storage areas must (if practical, reasonable and feasible) be located at a minimum distance of 50m from the watercourses. The appointed ECO must be consulted in this regard.</p> <p>Construction must be avoided during rainy days, to prevent excessive turbidity.</p> <p>Manual labour must be favoured over mechanical methods. Heavy machinery may only be used as a last resort if manual methods are not feasible or practical.</p> <p>Construction work must be well-planned and well-managed so that construction work proceeds quickly and efficiently, thus minimising the duration of disturbance.</p> <p>Disturbance / loss of aquatic vegetation and habitat</p> <p>Excepting the minimal space needed for the working corridor, all water resources are to be considered no go areas and a 32 m construction buffer must be adhered to.</p> <p>Any unnecessary intrusion into these areas is prohibited. Where intrusion is required, the working corridor must be kept to a minimum and identified and demarcated clearly before any construction commences to minimise the impact.</p> <p>Flow modification</p> <p>The trenches through any drainage line must be, as far as possible, manually hand-dug rather than dug using machinery.</p> <p>All excavated materials must be removed as speedily as possible. If this is not possible, storm water must be re-routed around excavated materials using temporary measures such as sandbags, retaining walls, pumps, silt curtains, cut-off trenches and PVC pipe.</p> <p>All stockpiled material must be used in backfilling or removed from the site.</p> <p>Vigilance must be maintained with regard to the passage of storm water in and around construction areas.</p>	Contractor	Construction phase

<p>Water backing up behind stockpiled material must be re-routed into natural drainage lines.</p> <p>Prior to construction, a method statement indicating how the water flow will be temporarily diverted (or excluded from the working area) must be submitted to the appointed ECO.</p> <p>On completion of the construction phase, restore and re-contour all construction areas to conform to the original drainage system</p> <p>Water pollution</p> <p>The trenches through any watercourses must be, as far as possible, manually hand-dug rather than dug using machinery.</p> <p>A spill kit to neutralize/treat spills of fuel/ oil/ lubricants must be available on site.</p> <p>Soil contaminated by spilled oil/ fuel/ lubricant must be excavated and disposed of in the hazardous waste bin.</p> <p>Vehicles/ machinery must avoid entering the river unless strictly required for construction.</p> <p>Waste bins (with secure lids) for hazardous waste and general waste must be provided on site. These must be kept at the site camp on an impermeable surface out of the riparian zone.</p> <p>Waste (including litter, building waste, oily rags etc.) must be placed in the appropriate bins.</p> <p>Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.</p> <p>Waste may not be buried on site.</p> <p>Unused cement bags must be stored in such a way that they will be protected from rain. Empty cement bags must not be left lying on the ground and must be disposed of in the appropriate waste bin.</p> <p>Washing of excess cement/concrete into the ground is not allowed. All excess concrete/ cement must be removed from site and disposed of at an appropriate location</p>		
<p>Performance Indicator</p>	<p>Impacts to aquatic ecosystems are avoided or minimized to acceptable levels.</p> <p>No excessive turbidity is observed</p>	

OBJECTIVE 5: PROTECTION OF TERRESTRIAL ECOSYSTEM (FAUNA AND VEGETATION)

Impact Management Objective: To ensure that the terrestrial ecosystem is not significantly impacted on.		
Potential impact to avoid	<p>Potential disturbance to terrestrial fauna during land clearing or construction activities.</p> <p>The clearing/trimming of vegetation will result in loss/ disturbance of indigenous vegetation and may reduce habitat heterogeneity.</p>	
Impact Management Outcome	The terrestrial ecosystem is not significantly impacted on as a result of the construction activities.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>Prior to land clearing the ECO must visit and assess the site to determine if there is a need for faunal search-and-rescue (including relocation of nests and young) within the areas to be disturbed by the expansion.</p> <p>Should search-and-rescue be required, the Contractor must develop an appropriate Method Statement for this, to the satisfaction the ECO.</p> <p>A suitably qualified individual must undertake the search-and-rescue (if required) and the Construction Contractor must budget accordingly for this.</p> <p>Construction workers must be sensitised to the fact that fauna (including mammals, snakes, spiders, birds, tortoises etc.) may be encountered on site, and they must exercise due caution to ensure that their actions/movements do not impact fauna.</p> <p>Any fauna encountered on site must be allowed to passively vacate the area.</p> <p>Active relocation of fauna must be a last resort, and must only be performed by a person skilled/ experienced enough to do so without endangering him/herself or the animal/bird.</p> <p>Construction workers may not feed, hunt, trap, poison or shoot fauna on site or in the immediately surrounding areas.</p> <p>Only the minimum area required to accommodate the construction must be cleared of vegetation.</p> <p>Vegetation outside of the demarcated construction footprint may not be cleared.</p>	Contractor	Construction phase

<p>Vehicles may not be driven through undeveloped vegetation outside of the demarcated working area. Prior to land clearing the ECO must visit and assess the site to determine if there is a need for faunal search-and-rescue (including relocation of nests and young) within the areas to be disturbed by the expansion.</p> <p>Should search-and-rescue be required, the Contractor must develop an appropriate Method Statement for this, to the satisfaction of the ECO.</p> <p>A suitably qualified individual must undertake the search-and-rescue (if required) and the Construction Contractor must budget accordingly for this.</p> <p>Construction workers must be sensitised to the fact that fauna (including mammals, snakes, spiders, birds, tortoises etc.) may be encountered on site, and they must exercise due caution to ensure that their actions/movements do not impact fauna.</p> <p>Any fauna encountered on site must be allowed to passively vacate the area. Active relocation of fauna must be a last resort, and must only be performed by a person skilled/ experienced enough to do so without endangering him/herself or the animal/bird.</p> <p>Construction workers may not feed, hunt, trap, poison or shoot fauna on site or in the immediately surrounding areas.</p> <p>Only the minimum area required to accommodate the construction must be cleared of vegetation.</p> <p>Vegetation outside of the demarcated construction footprint may not be cleared.</p> <p>Vehicles may not be driven through undeveloped vegetation outside of the demarcated working area. Where vegetation must be cleared it must be cleared by hand (i.e. brush cut) and stockpiled for use as mulch during rehabilitation of the site (cleared alien plants must however be removed from site to avoid reintroducing seed material).</p> <p>Vegetation may not be cleared via bulldozing.</p> <p>Topsoil and other spoil material excavated from within the watercourses must be stockpiled on disturbed areas away from the watercourses, and not dumped on natural vegetation.</p>		
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<p>Material stockpiles must be located on the most disturbed area in close proximity to the site, and not located within pristine vegetation outside of the working area. The movement of labourers in the surrounding landscape must be limited to only that strictly required for construction.</p> <p>After construction, the site must be rehabilitated as described in this EMPr</p>			
Performance Indicator	<p>Construction team limit disturbance to the terrestrial ecosystem as far as possible for the duration of the construction phase.</p> <p>There are no significant or long-term impacts to terrestrial vegetation or fauna.</p>		

OBJECTIVE 6: ALIEN CLEARING

<i>Impact Management Objective: To create habitat free of alien vegetation</i>			
Potential impact to avoid	The proliferation of alien vegetation once construction has been completed.		
Impact Management Outcome	The level of alien infestation decreases over time.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
<p>The ECO must be informed in advance of any vegetation that will be removed, irrespective of whether or not the vegetation is alien or indigenous. This is especially true of any vegetation clearing to be done within the watercourses.</p> <p>Vegetation clearing/trimming must be cleared by hand (i.e. brush cut) and stockpiled for use as mulch/brush-packing during rehabilitation of the site. Any alien vegetation that is cleared must be disposed of in consultation with the ECO, unless the cleared alien vegetation does not contain seeds in which case it may be retained for use in site rehabilitation</p>	Contractor	Construction phase	

<p>Alien invasive plant species must be cleared off the total development footprint (if possible). Alien clearing must be done in such a way not to cause damage to indigenous vegetation. No bulldozing must be undertaken for the purpose of vegetation clearing. Only the areas required to accommodate the construction and access to the construction site must be cleared/trimmed of vegetation. Vegetation outside of the construction footprint and beyond any No-Go areas must not be cleared. Work within the river channel must be limited (in time and extent) as far as possible and rehabilitated immediately afterwards.</p>		Contractor	Construction phase
Performance Indicator	No alien invasive species are observed in areas that have been disturbed.		

OBJECTIVE 7: JOB CREATION

<i>Impact Management Objective: To create employment opportunities with potential for skills transfer, for members of the local community.</i>			
Potential impact to be promoted	An estimated 30 jobs opportunities will be created during the construction phase. There may be opportunities to transfer skills from more experienced workers to less experienced workers.		
Impact Management Outcome	The local community benefits from the employment opportunities created during the construction phase.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
No mitigation required for this positive benefit. However, where practical preference must be given to previously disadvantaged individuals from the local community when appointing contractors/ workers. Skills transfer between members of the workforce should be encouraged	Applicant	Construction phase	

Performance Indicator	The majority of the construction team is from the local community, with preference given to historically disadvantaged individuals. Skills transfer from experienced to less experienced workers is actively encouraged on site.
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OBJECTIVE 8: CULTURAL & HERITAGE RESOURCE MANAGEMENT

Impact Management Objective: To protect and preserve any heritage resources encountered on site during construction.		
Potential impact to avoid	Any heritage resources encountered on site (human remains, grave stones, stone tools, artefacts, old coins and pottery, fossil shell middens, rock art and engravings, remains of old built structures etc.) may be damaged by earth moving or other construction activities. <i>Note: it is highly unlikely that heritage resources will be encountered.</i>	
Impact Management Outcome	No heritage resources are negatively impacted.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
Any heritage findings must be protected from further disturbance (ideally left in situ) and the ECO and South African Heritage Resources Agency should be notified immediately. The finding must be handled and/or removed from site as per instructions issued by Heritage delegated heritage specialist.	Contractor	Construction phase
Performance Indicator	No heritage resources are negatively impacted.	

OBJECTIVE 9: NOISE IMPACT MANAGEMENT

Impact Management Objective: To minimise the noise impact to the surrounding public.		
Potential impact to avoid	Noise will be generated during the undertaking of construction activities, which may present a nuisance to surrounding community.	
Impact Management Outcome	The surrounding community is not significantly impacted by noise arising from the construction activities.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>Noise-generating construction activities should be restricted to normal construction working hours (7:30 – 18:00) where ever possible.</p> <p>Workers moving to/from the site must be sensitized to keep noise to a minimum.</p> <p>Vehicles, machinery and other equipment must be kept in good working order.</p> <p>If deemed necessary, machinery and equipment must be fitted with mufflers/ exhaust silencers.</p> <p>Loud music is not allowed on site.</p> <p>Construction workers must be educated on how to control noise generating activities that have the potential to become disturbances, particularly over an extended period of time.</p> <p>Construction work must proceed efficiently, in a planned and well managed manner so as to limit the duration of the disturbance.</p> <p>Manual labor is preferred over the use of machinery.</p>	Contractor	Construction phase
Performance Indicator	Noise levels on site remain within acceptable standards. No noise complaints are received.	

OBJECTIVE 10: VISUAL IMPACT MANAGEMENT

Potential impact to avoid	During construction the site may appear disturbed or “messy” and may present visual impact to observers of the site.		
Impact Management Outcome	The site does not present a significant visual impact		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
<p>Only the area required to accommodate the construction and access to the construction site must be cleared of vegetation.</p> <p>Unnecessary/excessive clearing of vegetation must be avoided.</p> <p>Construction must be well-planned and well-managed so that work proceeds quickly & efficiently, thus minimizing the disturbance time.</p> <p>Disturbed/ cleared areas must be rehabilitated after construction is complete, in accordance with this EMPr.</p> <p>The site camp must be kept neat and tidy and free of litter at all times.</p> <p>The site camp, storage facilities, stockpiles, waste bins and any other temporary structures on site must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible.</p> <p>The site camp may require visual screening via shade cloth or other suitable material.</p> <p>Special attention must be given to the screening of highly reflective material (where reasonable and practical).</p> <p>Use of lighting (if required) must take into account surrounding residents and land users and should present little or no nuisance.</p> <p>Downward facing, spill-off type lighting is recommended.</p>			
Performance Indicator	<p>Good “housekeeping” is evident on site.</p> <p>The site does not pose a visual impact to surrounding community.</p>		

OBJECTIVE 11: DUST IMPACT MANAGEMENT

Impact Management Objective: To prevent the site from the generation of significant dust.		
Potential impact to avoid	<p>Dust and wind-blown sand may arise from site during earth-moving and other construction activities.</p> <p>Dust may be generated from cement batching activities.</p> <p>Dust may be generated from stockpiles of earth material.</p> <p>Dust may smother surrounding vegetation, and may pose a nuisance to nearby land occupants or land users.</p>	
Impact Management Outcome	The surrounding environment, land users, residents do not experience significant dust-related impacts.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>No vegetation clearing must be undertaken during windy conditions.</p> <p>Only the minimum area required to accommodate construction activities or to gain access to the site must be cleared.</p> <p>Exposed surfaces must be provided with suitable cover as soon as possible.</p> <p>Stockpiles must be protected from wind erosion as per the EMP (e.g. via covering with "anchovy nets", shade cloth or similar).</p> <p>Vehicles travelling to/from the site must adhere to acceptable speed limits to prevent excessive generation of dust.</p> <p>Dust levels specified in the National Dust Control Regulations (GN827 of November 2013) may not be exceeded (i.e. dustfall may not exceed 1200mg/m²/day)</p>	Contractor	Construction phase
Performance Indicator	<p>Excessive dust does not arise from the site.</p> <p>No dust complaints are received from any member of the public.</p> <p>There is no evidence that vegetation surrounding the site is being smothered by dust.</p>	

11.4 ENVIRONMENTAL IMPACT MANAGEMENT

OPERATIONAL AND MAINTENANCE PHASE

At full operation the @the lodge village will generate increased human and motorized traffic due to a number of workers, visiting guest and patrons in general who will use the facility. Strict environmental conservation practices will be required to maintain the integrity of eco system of the lodge. Minor repairs may be required during the operational lifespan of the structures in order to preserve the integrity and effectiveness of the structures. All maintenance and repairs will be done on a “like-for-like” basis.

The environmental management objectives (goals) of the operational phase are to:

Minimise the impact to the surrounding environment (aquatic and terrestrial ecosystems) during the undertaking of maintenance activities.

Prevent pollution and surface water contamination.

Minimise the amount of noise and air pollution generated during the operation of the lodge.

OBJECTIVE 1: MINIMISE DISTURBANCE TO TERRESTRIAL & AQUATIC ECOSYSTEMS

<i>Impact Management Objective: To minimise the impact to the aquatic and terrestrial environment during the operation pf the lodge</i>		
Potential impact to avoid	Daily maintenance at the lodge may result in repeated, short term disturbance to the aquatic and terrestrial ecosystem. i.e. physical disturbance to riparian vegetation and aquatic ecosystems.	
Impact Management Outcome	The integrity and effectiveness of the barrier structures is maintained. All disturbed areas are rehabilitated following maintenance activities.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period

<p>The general environmental management measures prescribed in this EMP must be implemented, as appropriate.</p> <p>Maintenance must be avoided on rainy days, to prevent excessive turbidity and disturbance to aquatic ecosystems.</p> <p>Maintenance works must be restricted in extent and duration to only that maintenance work that is strictly required, in order to limit disturbance to the watercourses and biota.</p> <p>Maintenance must be performed in such a way that will limit the need for future maintenance.</p> <p>Maintenance activities must be well-planned and well-managed so that construction work proceeds quickly and efficiently, thus minimising the duration of disturbance.</p> <p>Maintenance must be performed via manual labour as far as possible, with mechanical methods (heavy machinery etc.) utilised only as a last resort if manual methods are not feasible/ practical</p> <p>Movement of machinery and vehicles within the watercourses must be avoided, or restricted to only that strictly required for maintenance purposes.</p> <p>All areas disturbed during the undertaking of maintenance activities must be suitably rehabilitated with the use of indigenous vegetation or an appropriate cover</p> <p>Resource management</p> <p>Monitor water consumption to ensure that there is no undue waste</p> <p>Keep up to date records of water monitoring and make these available to the ECO upon request.</p> <p>Ensure that consumption does not exceed permitted quantities.</p> <p>Take action to reduce water and electricity consumption if necessary</p> <p>Post a Code of Conduct in guest rooms and other relevant areas and / or distribute a flier advising guests of relevant natural resource conservation technique</p> <p>Install a leak detection system, and promptly attend to leaks as required</p>	<p>Maintenance Team</p>	<p>Operational phase</p>
<p>Performance Indicator</p>	<p>The structures have been adequately maintained.</p> <p>Natural resources are conserved</p> <p>Unnecessary disturbance to the surrounding environment is avoided.</p>	

OBJECTIVE 2: PREVENT POLLUTION AND CONTAMINATION OF SOIL & WATER RESOURCES

Impact Management Objective: To prevent pollution of soil and surface/ground water during the undertaking of maintenance activities.		
Potential impact to avoid	<p>Fuel, oil, lubricant or other pollutants may leak from maintenance vehicles/ machinery and contaminate soil, surface water and/or ground water.</p> <p>Spills of hazardous substances may contaminate environment.</p> <p>Contaminated run-off from maintenance site or site camp facilities may pollute soil or water resources.</p> <p>Waste (solid or liquid) may be blown or washed into surrounding environment.</p> <p>Contamination of soil or water may impact surrounding and downstream land/water users and biota.</p>	
Impact Management Outcome	The environment (including soil, surface water and groundwater) is not contaminated.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
<p>Waste bins (with secure lids) for hazardous waste and general waste must be provided on site. These must be kept on an impermeable surface out of the riparian zone.</p> <p>Waste (including litter, building waste, oily rags etc.) must be placed in the appropriate bins.</p> <p>Bins must be emptied regularly and the waste disposed of at an appropriate, licensed facility.</p> <p>Bins must not be allowed to overflow.</p> <p>Vehicles parked at the lodge and machinery working at the lodge must be in good working order and must be regularly inspected for leaks.</p> <p>If a vehicle or machinery is leaking pollutants it must be removed and taken to an appropriate location for repair or lined area with containment facility .</p>	Maintenance Team	Operational phase

<p>Drip trays must be utilized for vehicle/ machinery maintenance on site, where there is a risk of fuel/ oil/ lubricant spillage.</p> <p>Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant.</p> <p>A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site.</p> <p>Soil contaminated by spilled oil/ fuel/ lubricant must be excavated and disposed of in the hazardous waste bin.</p> <p>Vehicles and machinery must be kept at a designated place when not in use.</p> <p>Maintenance workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.</p> <p>Excess food from the kitchen must be composed.</p> <p>Areas where soils have been denuded of cover vegetation which are susceptible to runoff must be covered with the vegetation that was initially cleared in the form of mulch to prevent the denuded soil from being washed or blown into the river system.</p> <p>Cement must be mixed on an impermeable surface away from the watercourses</p> <p>Fuels and other hazardous chemicals must be handled and stored as per section</p> <p>Waste water and effluent facilities must have a closed system and must not be linked to the watercourses in any way.</p> <p>The waste water and effluent facilities must also be serviced as needed.</p>		
<p>Performance Indicator</p>	<p>The environment is not polluted or contaminated as a result of maintenance activities undertaken.</p> <p>No spillage incidents occur.</p> <p>Waste is reduced, reused and recycled where possible.</p> <p>No increased sedimentation is observed due to movement within the river channel.</p>	

OBJECTIVE 3: EFFECTIVE NOISE MANAGEMENT

Impact Management Objective: To minimise the amount of noise generated during the operation of the lodge.		
Potential impact to avoid	Limited noise may be generated during each maintenance event during the lifespan of the structures, which may present a minor nuisance to nearby land users Music or other entertainment activity may generate unacceptable noise	
Impact Management Outcome	Noise is kept to a minimum level and does not cause a significant disturbance to neighbouring land users	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
Noise-generating maintenance equipment and construction activities must be restricted to normal working hours where ever possible. Workers moving to/from the site must be sensitized to keep noise to a minimum. Vehicles, machinery and other equipment must be kept in good working order. If deemed necessary, machinery and equipment must be fitted with mufflers/ exhaust silencers. Loud music is not allowed on site. Construction workers must be educated on how to control noise generating activities that have the potential to become disturbances, particularly over an extended period of time. Construction work must proceed efficiently, in a planned and well managed manner so as to limit the duration of the disturbance. Manual labour is preferred over the use of machinery.	Maintenance Team	Operational phase
Performance Indicator	Noise levels on site remain within acceptable standards. No noise complaints are received.	

OBJECTIVE 4: PREVENT THE ESTABLISHMENT OF ALIEN INVASIVE PLANT SPECIES

OBJECTIVE 5 SOCIO ECONOMIC DEVELOPMENT

Impact Management Objective: To ensure that alien invasive plant species do not invade the site as a result of maintenance activities and human disturbance.			
Potential impact to avoid	To not degrade the landscape economic impacts associated with the operation of the facility, specifically pertaining to soci economic benefit Alien vegetation is effectively controlled on site.		
Impact Management Outcome	A sound benefit sharing and prioritizing local community		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
Where reasonable site practical the Operator should appoint local employees and implement a 'locals first' policy, especially for semi and low-skilled job categories. After major maintenance events where there has been significant disturbance to soil surfaces, the site must be monitored 6 months after completion to ensure successful rehabilitation. Where feasible, efforts should be made to employ local suppliers of goods and services that are compliant with Black Economic Empowerment (BEE) criteria. Establishment of indigenous vegetation and to remove any alien vegetation sprouting on site. Where feasible, training and skills development programmes for locals should be initiated and maintained throughout the operational phase.	Operator	Operational phase	
Performance Indicator	No alien invasive species are observed in areas that have been disturbed.		
	The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.		
	Clear criteria for identifying and funding projects and initiatives should be identified.		
	The criteria should be aimed at maximising the benefits for the community as a whole and not individuals within the community		
Performance Indicator	A number of local people that have benefited from the project through employment of funding .		

OBJECTIVE 6 : LIGHTING AND VISUAL IMPACT MANAGEMENT

Potential impact to avoid	During operation the site may present visual impact to observers of the site.		
Impact Management Outcome	The site does not present a significant visual impact		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Time period	
<p>Only the area required to accommodate the guest and access to the site amenities must be cleared of vegetation. Unnecessary/excessive clearing of vegetation must be avoided.</p> <p>Maintenance must be well-planned and well-managed so that work proceeds quickly & efficiently, thus minimising the disturbance time.</p> <p>Disturbed/ cleared areas must be rehabilitated after construction is complete, in accordance with this EMPr.</p> <p>The site must be kept neat and tidy and free of litter at all times.</p> <p>The site, storage facilities, , waste bins must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible.</p> <p>Use of lighting must take into account surrounding residents and land users and should present little or no nuisance and must not cause unnecessary negative impact on nocturnal species</p> <p>Downward facing, spill-off type lighting is recommended.</p>			
Performance Indicator	<p>Good “housekeeping” is evident on site.</p> <p>The site does not pose a visual impact to surrounding community.</p>		

