APP-001531

SHARWIMBO RIVER CAMP, KONGOLA, ZAMBEZI REGION

ADDENDUM TO THE ENVIRONMENTAL MANAGEMENT PLAN

Prepared by:

GEO Pollution Technologies Namibia

Prepared for:

PB Vermaak

June 2023

Project:	**SHARWIMBO RIVER CAMP, KONGOLA, ZAMBEZI REGION: ADDENDUM TO THE ENVIRONMENTAL MANAGEMENT PLAN**	
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Report Approval	**André Faul** Environmental Assessment Practitioner	

I _____ acting as the Proponent's representative (PB Vermaak), hereby confirm that the project description contained in this report is a true reflection of the information which the Proponent provided to Geo Pollution Technologies. All material information in the possession of the proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report and the report is hereby approved.

Signed at Katima Mulilo on the 12 day of JUNE 2023.

PB Vermaak

520404 0162 8

~~Business Registration~~/ID Number

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1 INTRODUCTION

PB Vermaak (the Proponent), requested Geo Pollution Technologies (Pty) Ltd to renew their existing environmental clearance certificate (ECC) for the continued operations of Sharwimbo River Camp, situated in the Mashi Conservancy, Zambezi Region. The initial EMP for the development of the camp was drafted in 2017 and is attached in Appendix B. The facility has fifteen self-catering chalets, each with an en suite bathroom, kitchenette and private deck; six campsites; ablution facilities; a managerial house; two swimming pools; and related support infrastructure Operational activities are typical of similar tourism facilities in Namibia and include day to day lodge operations and maintenance, guided local tours and a number of other tourist activities.

In order to comply with Namibian legislation, and to adhere to all codes and standards applied in their operations, the Proponent wishes to apply for renewal of their ECC for the lodge operations. In support of the ECC renewal application, the original EMP, together with an addendum outlining any additional environmental management procedures to be implemented by the Proponent, will be submitted to the Ministry of Environment, Forestry and Tourism (MEFT). The EMP and its addendum provide management options to ensure environmental impacts of the lodge are continually minimised. The environment being defined in the Environmental Management Act as “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

The EMP is a tool used to take pro-active action by addressing potential problems before they occur. This limits potential future corrective measures that may need to be implemented and allows for application of mitigation measures for unavoidable impacts. This document should continue to be used as an on-site reference document during all phases (planning, construction (care and maintenance), operations and decommissioning) of the lodge. All monitoring and records kept should be included in a report to ensure compliance with the EMP. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken. A Health, Safety, Environment and Quality policy as well as Environmental (HSEQ) Policy could be used in conjunction with the EMP. Operators and responsible personnel must be taught the contents of these documents. Relevant regulations and guidelines must be adhered to and monitored regularly as outlined in the EMP.

The updated EMP and addendum will be used to apply for renewal of the existing ECC in compliance with Namibia’s Environmental Management Act (Act No 7 of 2007).

2 SCOPE

The scope of the addendum to the EMP is to:

- Provide a brief overview of all components and related operations of the lodge.
- Summarise the legal and regulatory framework within which the lodge operates.
- Identify gaps in the existing EMP in terms of identified impacts and their preventative and mitigation measures.
- Identify a range of management actions which could mitigate the additional identified adverse impacts to acceptable levels.
- To provide sufficient information to the relevant competent authorities and the MEFT to make informed decisions regarding the renewal of the ECC.

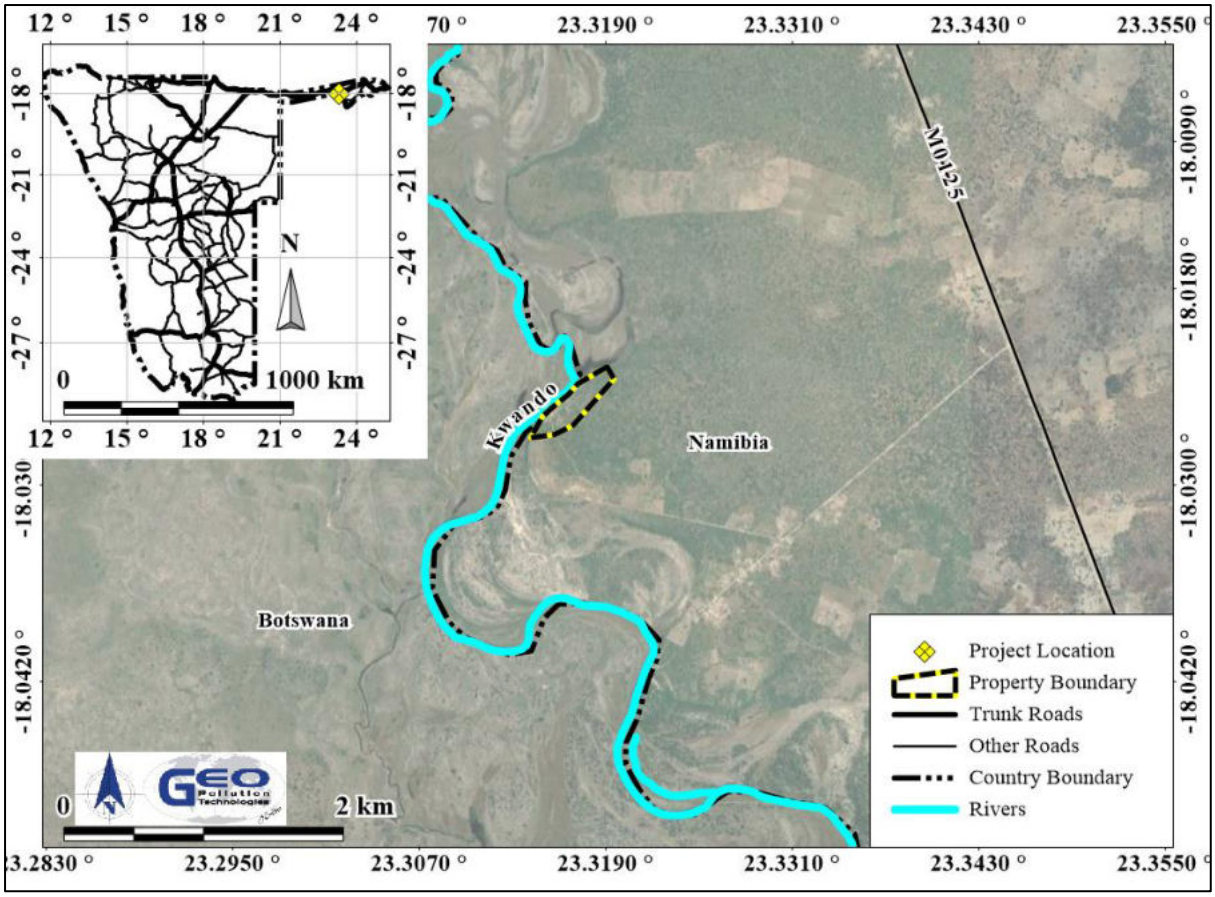

Figure 2-1 Project location

3 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an ECC, as per the Namibian legislation. The legislation and standards provided in Table 3.1 to Table 3.2 govern the environmental assessment process in Namibia and/or are relevant to the lodge.

Table 3.1 Namibian law applicable to the lodge

Law	Key Aspects
The Namibian Constitution	♦ Promotes the welfare of people. ♦ Incorporates a high level of environmental protection. ♦ Incorporates international agreements as part of Namibian law.
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	♦ Defines the environment. ♦ Promotes sustainable management of the environment and the use of natural resources. ♦ Provides a process of assessment and control of activities with possible significant effects on the environment.
Environmental Management Act Regulations Government Notice No. 28-30 of 2012	♦ Commencement of the Environmental Management Act. ♦ Lists activities that requires an environmental clearance certificate. ♦ Provides Environmental Impact Assessment Regulations.

Law	Key Aspects
Namibia Tourism Board Act Act no. 21 of 2000, Government Notice 261 of 200, 2000	♦ Provides for the registration and grading of accommodation establishments. ♦ Provides for the declaration of any sector of the tourism industry as a regulated sector and for the registration of businesses falling within a regulated sector. ♦ Provides regulations and minimum requirements pertaining to: o Levies payable. o Registrations of regulated businesses. o Registrations of accommodation establishments.
Accommodation Establishments and Tourism Ordinance 20 of 1973	♦ Consolidates and amends the laws relating to accommodation establishments and tourism and to provide for the establishment of tourist recreation areas and incidental matters. ♦ Provides for regulations of tourism establishments. ♦ Numerous amendments and repeals.
The Water Act Act No. 54 of 1956	♦ Remains in force until the new Water Resources Management Act comes into force. ♦ Defines the interests of the state in protecting water resources. ♦ Controls the disposal of effluent. ♦ Numerous amendments.
Water Resources Management Act Act No. 11 of 2013	♦ Provides for management, protection, development, use and conservation of water resources. ♦ Prevention of water pollution and assignment of liability. ♦ Not in force yet.
Forest Act (Act 12 of 2001, Government Notice No. 248 of 2001)	♦ Makes provision for the protection of the environment and the control and management of forest fires. ♦ Provides the licencing and permit conditions for the removal of woody and other vegetation as well as the disturbance and removal of soil from forested areas.
Forest Regulations: Forest Act, 2001 Government Notice No. 170 of 2015	♦ Declares protected trees or plants. ♦ Issuing of permits to remove protected tree and plant species.
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	♦ Defines the powers, duties and functions of local authority councils. ♦ Regulates discharges into sewers.
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	♦ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters. ♦ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation.
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	♦ Provides for Labour Law and the protection and safety of employees. ♦ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997).

Law	Key Aspects
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	♦ Governs the control of noxious or offensive gases ♦ Prohibits scheduled process without a registration certificate in a controlled area. ♦ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.
Hazardous Substances Ordinance Ordinance No. 14 of 1974	♦ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export. ♦ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings.
Pollution Control and Waste Management Bill (draft document)	♦ Not in force yet. ♦ Provides for prevention and control of pollution and waste. ♦ Provides for procedures to be followed for licence applications.

Table 3.2 Relevant multilateral environmental agreements for Namibia and the development

Agreement	Key Aspects
Charter of the Regional Tourism Organisation of Southern Africa (RETOSA), 1997	♦ Development of tourism through effective marketing of the Region in collaboration with the public and private sector. ♦ To facilitate, encourage and assist in the development of legal and ethical tourism throughout the Southern African Region taking due consideration of the overall development of the people, the Region and the Region's natural and cultural resources.
Stockholm Declaration on the Human Environment, Stockholm 1972.	♦ Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.
Protocol on the Development of Tourism in SADC, 1998	♦ The Protocol sets out SADC's objective to build upon the region's potential as a tourist destination.
Statutes of the World Tourism Organization, 1970	♦ Promotion and development of tourism with a view to contributing to economic development, international understanding, peace, prosperity, and universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language or religion.
United Nations Framework Convention on Climate Change (UNFCCC)	♦ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention.
Convention on Biological Diversity, Rio de Janeiro, 1992	♦ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity.

Listed activities which require an ECC application (Government Regulation No 29 of 2012) related to this project include the following:

Section 2 of Government Notice No. 29 of 2012: Waste Management, Treatment, Handling and Disposal Activities

- 2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste: The Proponent temporarily stores waste for disposal at an external landfill, the proponent further burns general, non-toxic combustible waste such as paper, cardboard and food at the site.

Section 6 of Government Notice No. 29 of 2012: Tourism Development Activities

- 6. The construction of resorts, lodges, hotels or other tourism and hospitality facilities: The lodge and related tourism facility was constructed and is currently in operation and maintained accordingly.

Section 8 of Government Notice No. 29 of 2012: Water Resource Developments

- 8.3. Any water abstraction from a river that forms an international boundary: Water is abstracted from the Kwando River for current commercial (tourism) operations.
- 8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems: The Proponent has installed wastewater treatment facilities (septic tank and soakaway systems) within the operational area to manage mainly black and grey water.

4 ADDENDUM TO THE ENVIRONMENTAL MANAGEMENT PLAN

The purpose of an EMP is to list the most pertinent environmental impacts that are expected from the operational, construction (upgrades, maintenance, etc.) and potential decommissioning activities of the lodge, and to provide preventative and mitigation measures for those impacts. The following sections acts as a supplement to the existing EMP of 2017 and the tow documents should be used in conjunction with each other to ensure all potential impacts are considered.

The EMP and its addendum and ECC must be communicated to the lodge managers. A copy of the ECC and EMP should be kept on site. All monitoring results must be reported on as indicated. Reporting is important for any future renewals of the ECC and must be submitted to the MEFT. Renewal of ECC will require six monthly reports based on the monitoring prescribed in this EMP.

4.1 MANAGEMENT OF IMPACTS: OPERATIONS AND CONSTRUCTION

The following section provide management measures that were identified as lacking in the existing EMP, for both the operational phase as well as construction activities related to the lodge.

4.1.1 Planning

During the phases of planning for operations, construction and decommissioning of the lodge, it is the responsibility of the Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the construction activities and operations of the project are in place and remains valid. This includes registration with the Namibia Tourism Board (NTB) and permission for water abstraction and effluent disposal from the Ministry of Agriculture, Water and Land Reform.
- Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present on site.
- Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- Have the following emergency plans, equipment and personnel on site where reasonable to deal with all potential emergencies:
    - Risk management / mitigation / EMP/ Emergency Response Plan and HSE Manuals;
    - Adequate protection and indemnity insurance cover for incidents;

  - Comply with the provisions of all relevant safety standards;
  - Procedures, equipment and materials required for emergencies.

- If one has not already been established, establish and maintain a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.
- Ensure all agreements entered into between the Proponent and the Mashi Conservancy are continually adhered to, and updated in writing if and where required.
- Establish and / or maintain a reporting system to report on aspects of construction activities, operations and decommissioning as outlined in the EMP.
- Submit bi-annual reports to the MEFT to allow for environmental clearance certificate renewal after three years. This is a requirement by MEFT.
- Appoint a specialist environmental consultant to update the EMP and apply for renewal of the environmental clearance certificate prior to expiry.

4.1.2 Skills, Technology and Development

During various phases of the lodge, training is provided to a portion of the workforce to be able to conduct certain tasks according to the required standards. Skills are periodically transferred to an unskilled workforce for general tasks. Development of people and technology are key to economic development. During normal operations, employees will enhance their working expertise while some individuals may be identified for promotion and additional skills development and training.

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technology advancements in the tourism industry and local community.

Actions

Enhancement:

- If the skills exist locally, contractors must first be sourced from the region and then nationally. Deviations from this practice must be justified.
- Skills development and improvement programs to be made available as identified during performance assessments.
- Employees to be informed about parameters and requirements for references upon employment.
- The Proponent must employ local Namibians from the area where possible. Deviations from this practise should be justified appropriately.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Record should be kept of training provided.
- Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- Bi-annual summary report based on employee training.

4.1.3 Economic Resilience and Employment

The change in land use, from communal to tourism, lead to changes in the way revenue is generated and paid to the national treasury. Skilled and unskilled labour are required for the operations and maintenance / construction activities associated with the lodge. Furthermore, a contractual monthly levy is paid towards the Mashi Conservancy.

Desired Outcome: Contribution to national treasury and continued remuneration of temporary and permanent employees as per the Labour Act. Continued contributions to social security.

Actions

Enhancement:

- The Proponent must employ local Namibians from the Conservancy where possible.
- If the skills exist locally, employees must first be sourced from the town, then the region and then nationally. Deviations from this practice must be justified.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on employee records and financial contributions to the various institutions such as social security, receiver of revenue etc.

4.1.4 Demographic Profile and Community Health

Greater economic prosperity as linked to the flourishing lodge operations may lead to a change in the demographic profile of the local community. Change will result with an influx of job seekers over time and further densification of the settlement. Community structures may change with an increase in population while the economic profile will be adjusted as the employment structure of the area is changed. Community health may be exposed to factors such as communicable disease like HIV/AIDS and alcoholism/drug abuse. An increase in people in the area may potentially increase the risk of criminal and socially deviant behaviour such as vandalism and poaching. More people in the area will exert additional pressure on governmental services, particularly essential services such as health care. Medical assistance, emergency services and the policing of the community may become strained.

Desired Outcome: To prevent the occurrence of social ills and prevent the spread of diseases such as HIV/AIDS.

Actions:

Prevention:

- Employ only local people from the conservancy where possible, deviations from this practice should be justified appropriately.
- Ensure sanitation facilities and all related sanitation requirements are available and maintained at the lodge for all employees.
- To prevent conflict between families within the conservancy, employment should be divided in such a manner that ensures adequate distribution between families as far as possible.
- Educational programmes for employees on various topics of social behaviour HIV/AIDs and general upliftment of employees' social status.
- Appointment of reputable contractors.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- Bi-annual summary report based on educational programmes and training conducted.

4.1.5 Traffic

As the lodge is located in a remote area and access is gained via an off-road track, traffic impacts are unlikely, and mostly related to degradation of road surfaces, dust generation and nuisance to local villages.

Desired Outcome: Minimum impact on traffic and no transport or traffic related incidents.

Actions

Prevention:

- Vehicles accessing and leaving the lodge should remain on existing established roads / tracks and maintain low speeds.
- If any traffic impacts are expected, possibly as a result of delivery of equipment or construction material, traffic management should be performed to prevent these.

Mitigation:

- Treated grey water may be used for dust suppression purposes on access roads to the lodge.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- A bi-annual report should be compiled of all incidents reported, complaints received, and action taken.

4.1.6 Fire

Construction activities, failing electrical infrastructure and fires outside of designated areas may increase the risk of the occurrence of uncontrolled fires which may spread into the nearby field. Similarly machinery can ignite dry vegetation if sufficient heat (e.g. exhaust pipes) or sparks are produced. Chemicals and fuels stored and used for general activities may be flammable. Improper waste burning or discarding of cigarette buds further increases fire risks.

Desired Outcome: To prevent property damage, veld fires, possible injury and impacts caused by uncontrolled fires.

Actions:

Prevention:

- Prepare a holistic fire protection and prevention plan. This plan must include evacuation plans and signage, an emergency response plan and a firefighting plan.
- Personnel training (safe operational procedures, firefighting, fire prevention and responsible housekeeping practices).
- Ensure all chemicals are stored according to material safety data sheet (MSDS) and SANS instructions and all spills or leaks are cleaned up immediately.
- Maintain regular site, mechanical and electrical inspections and maintenance.
- Maintain firefighting equipment and proponent good housekeeping.
- Fire used for purposes such as cooking (by staff) must only be allowed within designated areas.
- The burning of waste should be done in a designated area and strictly controlled and monitored.

Mitigation:

- Implement the fire protection and prevention plan in the event of a fire.
- Quick response time by trained staff will limit the spread and impact of fire.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

4.1.7 Noise

Since the lodge is a tourist establishment, noise are typically kept to a minimum not to be a disturbance to guests. However, during maintenance activities some noise generating activities can exist that may lead to hearing loss in workers.

Desired Outcome: To prevent any nuisance and hearing loss due to noise generated.

Actions

Prevention:

- Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.
- All machinery and vehicles must be regularly serviced to ensure minimal noise production.

Mitigation:

- Hearing protectors as standard PPE for workers in situations with elevated noise levels.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- WHO Guidelines.
- Maintain a complaints register.
- Bi-annual reporting on complaints and actions taken to address complaints and prevent future occurrences.

4.1.8 Waste Production

Various waste streams are produced during the operational and maintenance phases. Waste may include hazardous waste associated with hydrocarbon products and chemicals and soil and water contaminated with such products. Domestic waste will be generated by the lodge and related operations. Waste presents a contamination risk and when not removed regularly may become a health and / or fire hazard as well as attract wild animals and scavengers. Sewage is a form of liquid biological waste that needs disposal.

Desired Outcome: To reduce the amount of waste produced, and prevent pollution and littering.

Actions

Prevention:

- Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- Ensure adequate disposal storage facilities are available.
- Ensure waste cannot be blown away by wind.
- Prevent scavenging (human and non-human) of waste.
- Sewage water and grey water should be treated separately to reduce the amount of sewage water generated.
- The septic tank should be designed and operated according to the general guidelines set forth in the *Department of Water Affairs and Forestry, Code of Practice: Volume 1, Septic tank Systems*.
- No foreign objects, hazardous chemicals, fuels or excessive amounts of cooking grease may enter the sewage system.
- Use only bio-degradable, septic tank friendly cleaning chemicals.
- All regulation and by-laws relating to environmental health should be adhered to.
- Adhere to effluent disposal permit conditions for septic tank soakaway systems.
- Ensure all ablution facilities are connected to properly constructed and maintained effluent treatment system to prevent groundwater contamination.
- Should any buildings or structures be decommissioned, all waste and infrastructure should be removed from the site and disposed of at a recognised landfill site.
- Should the septic tanks be decommissioned, all waste should be removed from the tank and disposed of in an appropriate manner. The tanks may then be crushed in place and covered with at least 0.5 m soil.

Mitigation:

- Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).
- See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.
- Liaise with the local authority regarding waste and handling of hazardous waste.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- Any complaints received regarding waste should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

4.1.9 Ecosystem and Biodiversity Impact

Sharwimbo River Camp is an existing facility and no further impact on vegetation is expected. Poaching and illegal collection of plant and animal materials may occur. Impacts may also be related to pollution of the environment. Human / wildlife interactions further presents a risk to both the wildlife and the people involved if not properly managed.

Desired Outcome: To avoid pollution of and impacts on the ecological environment.

Actions.

Prevention:

- Where possible, removal of trees, especially protected species and large trees, must be avoided during construction activities.
- The necessary permits from the Directorate of Forestry, MEFT must be obtained for removal of all protected species.
- Educate all contracted and permanent employees on the value of biodiversity.
- Strict conditions prohibiting harvesting and poaching of fauna and flora should be part of employment contracts. This includes prohibitions or regulations on the collection of firewood.
- Firewood should be sourced from regions with an abundance of wood, preferably from invasive species as far as possible.
- Regular inspection of surrounding areas and river courses for snares, traps or any other illegal activities.
- Disciplinary actions to be taken against all employees failing to comply with contractual conditions related to poaching and the environment.
- Only guided tours should be allowed from the lodge, and should be limited to existing established roads.
- Only one boat may be operated from the lodge for river cruises, this will reduce environmental related disturbances as well as the cumulative impact.
- Guides employed should be either NATH or FGASA accredited
- Policy documents should be drafted and implemented on how to deal with wildlife interactions and visits to villages, this should include:
  - Training requirements for guides,
  - Induction requirements for clients,
  - Routes that may be used (existing only).

Mitigation:

- For construction activities, if any, contain construction material to a designated laydown area and prevent unnecessary movement out of areas earmarked for clearing and construction.
- Report any extraordinary animal sightings, conflict or incidents to the MEFT.
- Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- Avoid scavenging of waste by fauna.

Responsible Body:

- Contractor
- Proponent

Data Sources and Monitoring:

- All information and reporting to be included in a bi-annual report.

4.1.10 Visual Impact

This impact is not only associated with the aesthetics of the site, but also the structural integrity. The existing lodge was designed in a manner which reduces the impact on the landscape character. The lodge is uniquely located and serves as a point of interest to tourists and patrons to the area, it should be kept clean, tidy and maintained to ensure it remains aesthetically pleasing.

Desired Outcome: To minimise aesthetic impacts associated with the lodge.

Actions

Prevention:

- Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.
- Low brightness lights should be used and directed downwards to ensure a minimal visual impact is maintained.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A maintenance record should be kept.
- A report should be compiled of all complaints received and actions taken.

4.1.11 Cumulative Impact

Possible cumulative impacts associated with the operational phase and any maintenance / construction activities are mainly linked to increased traffic. Being isolated, cumulative impacts are however expected to be unlikely.

Desired Outcome: To minimise cumulative all impacts associated with the lodge.

Actions

Mitigation:

- Strategies should be put in place, in conjunction with the Conservancy, to reduce impacts on popular tourist spots "pressure points" within the vicinity.
- Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.

4.2 DECOMMISSIONING AND REHABILITATION

Decommissioning is not foreseen during the validity of the ECC. Construction activities may however include modification and decommissioning. Should decommissioning occur at any stage, rehabilitation of the area may be required. Prior to the complete decommissioning of the lodge, the post closure land use should be assessed. It is recommended that the lodge either be sold, or all infrastructure be offered to the local community in order to continue with the operations. This will mitigate the possible impacts associated with job losses etc. Should the lodge be donated to the local community / sold, all existing contamination at the site should be cleared / remediated prior to the transfer of infrastructure, the existing EIA and EMP should further be transferred to the new owner to ensure continual compliance with EMP requirements.

In the event where the lodge cannot be sold or transferred to the local community, decommissioning will entail the complete removal of all infrastructure including buildings and underground infrastructure, if any, not forming part of post decommissioning land use. Any pollution present on the site must be remediated. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. Should operations be decommissioned with no employment or remuneration plan for the conservancy and employees, a significant social and economic impact will be suffered by the local community. The EMP for the lodge will have to be reviewed and updated prior to decommissioning to cater for changes made to the site and implement guidelines and mitigation measures related to social and environmental aspects.

4.3 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy; and
- Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.
- The EMP.

5 CONCLUSION

Operations of Sharwimbo River Camp has a positive impact on the tourism sector operational in the area and Namibia. It provides accommodation and tourism related services in a remote area, increasing ease of accessibility. It provides employment opportunities and skills development to a local workforce. Revenue is generated that contributes to the Mashi Conservancy as well as the Namibian economy.

Negative impacts associated with the operations and maintenance / construction activities can successfully be mitigated. Implementing a safety, health, environment and quality (SHEQ) policy will contribute to effective management procedures to prevent and mitigate impacts. All regulations relating to tourism and health and safety legislation should be implemented. Groundwater and soil pollution must be prevented at all times. Fire prevention should be key and fire response plans must be in place and regular training provided. All staff must be made aware of the importance of biodiversity and the

poaching or illegal harvesting of animal and plant products prohibited. Any waste produced must be removed from site and disposed of at an appropriate facility or re-used or recycled where possible. Hazardous waste must be disposed of at an approved hazardous waste disposal site.

The updated EMP should continue to be used as an on-site reference document for the operations of the lodge. Parties responsible for transgressing of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The Proponent could use an in-house Environment Management System in conjunction with the environmental management plan. All operational personnel must be taught the contents of these documents.

6 REFERENCES

Tagg J. 2017. Scoping Report and Environmental Management Plan for Sharwimbo River Camp in the Mashi Conservancy, Zambezi Region.

Appendix A: Environmental Clearance Certificate

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

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17 August 2017

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

Mr PB Vermaak/ Sharwimbo River Camp
P O Box 2374
Ngweze
Katima Mulilo
Namibia

Dear Sir /Madam

SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE ESTABLISHMENT AND OPERATION OF THE SHARWIMBO RIVER CAMP IN MASHI CONSERVANCY, ZAMBEZI REGION

The Environmental Impact Assessment Scoping Report and Environmental Management Plan submitted are sufficient as these made provisions of the environmental management concerning the project's activities. From this perspective regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.

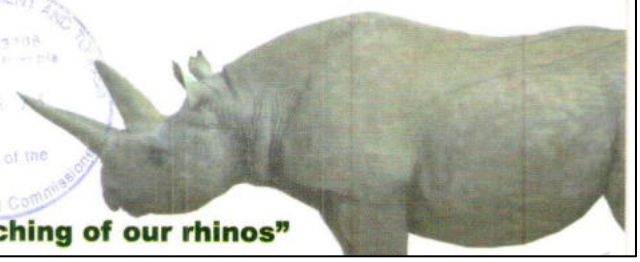
This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.

On the basis of the above, this letter serves as an environmental clearance for the project to commence. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project's activities. Instead, full accountability rests with Mr PB Vermaak and his consultants.

This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.

Yours sincerely,

Teofilus Nghitila
ENVIRONMENTAL COMMISSIONER



"Stop the poaching of our rhinos"

Appendix B : Initial EMP

Environmental Management Plan

Sharwimbo River Camp

J Tagg, June 2017

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1. Project Outline

1.1 Introduction

This Environmental Managements Plan (EMP) describes a list of management actions needed to ensure that avoidable negative impacts during the development and operation of the project are prevented or minimised and that the positive impacts are enhanced.

The EMP addresses all the impacts likely to occur in the development of Sharwimbo River Camp and addresses all potential impacts listed in the Environmental Scoping Report for this development.

1.2 Project Description

The development shall consist of:

a) Five self-catering tented chalets
b) Four campsites
c) Central camp area incorporating dining area for groups
d) Two manager's cottages
e) Two guide tents
f) Staff quarters with a covered communal kitchen
g) Modest workshop and storage area – this is an existing container

During the development phase, which is anticipated to last about four months, it is anticipated that the labour force will vary between 10 and 20 people and this will depend upon the nature of the activity. The temporary building staff shall be housed in tents and meals shall be provided from a communal kitchen.

All infrastructure shall be positioned to have minimum impact on vegetation and no large trees shall be removed.

Features of the bungalows, dining/kitchen and services:

a) Chalets shall be detached units and shall face across the Kwando River. Each shall have a main sleeping room, shower/toilet a private deck and a small kitchenette.
b) The chalets will be of canvas panels with a double canvas roof to allow free air flow.
c) The camp sites shall have two ablution blocks.
d) Footpaths shall connect bungalows to the central area and shall be illuminated by solar lights which are focused on the path and not upwards. This shall minimise light pollution.

The following activities shall be available:

a) Self-catering for middle-market clients
b) Boat rides
c) Limited angling on a "catch & release" basis

2. EMP Objectives

The objectives of this plan are to:

a) Describe all environmental safeguards and mitigation measures;
b) Minimise negative impacts of the development and operational phases of this project;
c) Enhance the positive impacts;

d) Provide a tool which allows a succession of managers to have a consistent approach to managing the camp;
e) Meet the requirements of relevant legislation;
f) Allow the Developer to monitor environmental impacts; and
g) Create awareness among all staff of the importance of maintaining sound environmental standards in all operations of the camp.

The strategies employed to achieve the objectives include:

a) Ensure that the developer is aware of the provisions of the EMP during the planning phase;
b) Inclusion of the EMP in the agreement of contractors involved with construction of the camp;
c) Control and management of waste during construction;
d) Ensure that the EMP is an integral part of the operations procedures for the camp;
e) Incorporate environmental monitoring into the operations of the camp;
f) Create environmental awareness among all staff; and
g) Maintenance of close relationship with conservancy and other stakeholders.

3. General Requirements for Implementation of the EMP

3.1 EMP Administration

The EMP shall be an annex to any contractor's agreement and the contents shall be shared with him/her at the time of the site hand-over.
All staff shall be required to familiarise themselves with the content of the document while the developers shall be tasked with overall responsibility for implementation during the building phase. Once the camp is operational the responsibility for implementation and monitoring shall be the responsibility of the camp manager.

3.2 Environmental Awareness Training

a) Construction Phase
The contractor shall ensure that all his/her staff are aware of the importance and implications of the EMP and the need to commit to the relevant provisions contained in the document.

b) Operational Phase
The operational phase shall require that roles and responsibilities for all employees need to be established while the **reasons and importance** of mitigation measures shall be clearly explained. This shall be an on-going process.
The positive socio-economic and biodiversity impacts involve a number of external stakeholders and these relationships require close and regular interventions.
It is also important for all staff to understand the context of the camp development. The development of appropriate materials for guests shall also ensure that the camp and the activities are understood within the broader social, economic and biodiversity context.

4. Management Actions

4.1 Planning Phase

Objective	Management Measure	Monitoring Action & Method	Responsibility
Environmental Clearance	Apply for environmental clearance through submission of Environmental Scoping Report & Environmental Management Plan	File clearance	Developer (or appointed agent)
Adhering to EMP requirements	EMP should be shared and discussed with contractor and be an annex to any contracts.	Site meeting with contractor/s	Developer
	Organise an awareness meeting with all building staff to ensure awareness and the need for compliance with EMP	Complete EMP awareness training	Contractor
Socio-economic benefits	Develop agreement monitoring tool to manage & monitor any agreement that may emerge out of discussions with Mashi Conservancy	Hold inception meeting with conservancy	Developer
Conserve existing vegetation	Layout & design should minimise impact on mature trees	Layout & design complies with proposed mitigation	Developer Contractor
Minimise land degradation & erosion	Minimum risk but contractor to ensure that any development minimises potential for erosion	Developer to guide and inspect	Developer Contractor
To preserve scenic quality & maintain "sense of place"			
	Place service areas out of sight of guest areas and hide installations/services with screens (may use trees & shrubs indigenous to area)	Compliance with plans	Developer Contractor
	Materials & colours should blend in with the site	Discussions between developer & contractor	Developer
Minimise impact on energy resources	Design energy systems which use, where possible, renewable energy	Feasibility on most cost-effective & sustainable system	Developer Electrician

Minimise impact on water resources	Use water-saving devices in toilets and low-flow shower heads	Specified in details	Developer
	Specify water meters to monitor water consumption	Specified in details	Developer
	Place sewerage systems to ensure such that potential for contamination of ground water is minimised	Septic tanks as far as possible from and which slope away from river	Developer
	Design sewerage management system (septic tanks) to ensure that there is sufficient capacity in the primary tank for a 21-day holding period. This can be based on a calculation of an average of 60 litres flushed fluid per guest per day.	Specified in details of septic tanks Soak-aways designed to handle the hydraulic volume generated by the septic tanks (refer to "best practice" design documentation)	Developer
	Grey waste water disposal system to be built independent of septic tanks	Specified in details	Developer

4.2 Building Phase

Objective	Management Measure	Monitoring Action & Method	Responsibility
Ensure that worker safety conforms to statutory requirements	Ensure workers have adequate safety clothing & equipment	Workers issues with required boots, hard hats etc.	Contractor
To ensure that provisions of the EMP are implemented during construction	EMP shall be included in contractors agreement	Agreement signed	Developer
	Contractors to report at every site meeting on implementation of EMP	Included in site meeting notes	Contractor
	Contractor to conduct training & awareness for workers	Workers awareness & training meeting	Contractor
	Copy of EMP included as part of contractors instructions and available to all staff and sub-contractors	EMP available on site	Contractor
	A sign-off procedure should there be any change to the EMP or should there be any deviation from the clauses or intention of the EMP	Updates and instructions included in construction instructions	Contractor Developer or nominee
Minimise damage to environment during construction	Demarcate area that shall be subjected to disturbance	Common understanding on extent of construction area	Developer/contractor
	Protection of woody plants. Where possible these should be incorporated into the design.	Compliance with developer instructions	Contractor
	Wildlife not to be disturbed, trapped or killed and any offender shall be reported to Conservancy & MET for further action	Incidents to be recorded and reported to appropriate authority	Contractor
	To minimise soil or water pollution	Spillages of potentially harmful substances must be cleared immediately and disposed of at an appropriate site	Contractor

	To ensure that sound waste waste management is practiced during the construction phase and should be classified and separated as industrial (oil, metal and chemical based materials); solid waste (normal household waste)	Management & disposal of waste is undertaken on the principle of recycling where feasible while waste should be removed from the site and disposed of at an appropriate dump in Kongola	Contractor
	Servicing of equipment not undertaken on site	Servicing outsourced to off-site service providers	Contractor

4.3 Operational Phase

Objective	Management Measure	Monitoring Action & Method	Responsibility
To ensure that EMP and the Scoping Report understood by management & staff	EMP & Scoping Report incorporated into contract of camp manager	Contract which aligns EMP & Scoping Report	Developer
	Staff receive training and understand the implications and reasons for the EMP	Training held & roles and responsibilities of various staff members clearly spelt out and included in job descriptions	Camp Manager
To ensure that the agreed socio-economic benefits are achieved	Implement agreement monitoring tool	Ensure that reviewed and acted upon at meetings between developer and Mashi Conservancy	Developer Camp Manager Conservancy
	Maintain regular contact with conservancy management	Communicate as the need arises to address issues of mutual interest/concern	Camp Manager
Minimise impacts on vegetation	Existing vegetation in camp area is not removed except where it is a hindrance to camp operations	Conduct regular inspects and keep staff informed	Camp Manager
	Introduced ornamental plants are indigenous to the area	Request list of appropriate plants from plant experts	Camp Manager
	Monitor possible spread of alien plants	Request support from specialists as the need/possibility arises	Camp Manager
	Staff do not fell trees or damage vegetation	Inform staff of policy as well as the repercussions should there be non-compliance. Include in code of conduct for staff.	Camp manager
	Firewood may NOT be collected in vicinity of camp without consent of Camp Manager	Inspections of cooking areas	Camp Manager
	Visitors to source braai wood from camp or externally	Information to visitors	Camp Manager
Minimise impact on wildlife			
	Staff do not have an impact on wildlife	Staff to be aware of the legal implications	Developer Camp Manager

		and company policy in catching, trapping or killing wild animals	
	Ensure that guests are aware of the potential danger of wild animals entering camp area	Guides to be trained in responding to elephant and hippo as well as the handling and management of venomous snakes. Developer shall ensure that snake-handling equipment (catching rod and bag) is on site.	Camp Manager
Capitalise on presence of camp for biodiversity management			
	Maintain integrity of the area	Report any suspicious behaviour to MET and conservancy	Camp Manager All camp staff
	Ensure that tracks used exclusively for camp activities are not subjected to erosion	Undertake inspections twice per year and, if required, install additional drainage or undertake whatever repairs required to rehabilitate and reduce erosion	Camp Manager
To preserve scenic quality & "sense of place"	Mitigation measures implemented during construction phase are maintained	Regular inspections of screens etc. hiding services & installations are functional and if required repair	Camp Manager
Minimise impact on water resources			
	Water usage & consumption is within the "best practice guidelines"	Monitor water usage on a monthly basis and calculate usage per guest and for staff members and compare against targets	Camp Manager
	There is no leakage from water systems	Undertake regular inspections of all water pipes	Camp Manager
	Guests aware of the need to use water wisely	Place appropriate information in tents & camp sites emphasizing the need for wise water use	Developer
Minimise soil & water pollution	Spillages of potentially harmful substances must be cleared immediately and disposed of at an appropriate site	Inspection and follow-up clean-ups if required	Camp Manager

	Functional septic tanks	Undertake regular inspections and, if required, de-sludge	Camp Manager
	Functional fat traps	Inspect & clean on a regular basis	Camp Manager
	Functional soak-aways	Inspect on a regular basis	Camp Manager
	Functional and leak-free waste water pipes	Inspect on a regular basis and repair if required	Camp Manager
	Use of environment-friendly soaps & detergents	Ensure that procurement specifies this need	Camp Manager
	Create guest and staff awareness of the need to use only environment-friendly soaps	Develop appropriate materials for different users	Camp Manager
	Consistent water quality	Test water four times per year according to standard guidelines	Camp Manager
	No contamination of soil or water by fuels or oil	Ensure that all fuels stored and managed to reduce risk of spillages	Camp Manager

5. Environmental Monitoring (Operational Phase)

The following represents key monitoring activities but camp management may add as the need arises

Note: Most of the monitoring is the responsibility of the manager BUT he/she may delegate as required but those responsible need to have the task included in job description

To be Monitored	What needs to be monitored	Frequency	Responsibility
Agreement with conservancy	Socio-economic benefits for conservancy delivered by Developer	Quarterly	Developer Conservancy
Sewerage system	Septic tanks	Every month	Camp manager (CM)
Sewerage pipes	Leaks	Monthly	CM
Grey water pipes	Leaks	Monthly	CM
Fat traps	Functioning equipment	Weekly	CM
Water installations	Functioning of equipment	Weekly	CM
Soak-aways	Drainage	Monthly	CM
Water quality	Water quality	Quarterly	CM