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ENVIRONMENTAL MANAGEMENT PLAN

OLUPALE LODGE, OSHANA REGION

PREPARED FOR

JUNE 2020

PO BOX 91193 Windhoek Namibia
Environmental Compliance Consultancy CC
CC/2013/11404

TITLE AND APPROVAL PAGE

Project Name:	Environmental Management Plan for the development of Olupale Lodge, Oshana Region
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Confidentiality

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DEFINITIONS AND ABBREVIATIONS

ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
MEFT	Ministry of Environment, Forestry and Tourism
PM	Project Manager
MSDS	Material Safety Data Sheet
PPE	Personal Protective Equipment

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Environmental Compliance Consultancy (ECC) has compiled this Environmental Management Plan (EMP) in terms of the Environmental Management Act, No. 7 of 2007 and its regulations on behalf of Olupale Lodge (Pty) Ltd (herein referred to as the proponent).

Nuvella Managerial and Marketing Services is a developer of numerous prestigious projects in Namibia, have worked on a number of hospitality projects and have developed and delivered multiple award winning facilities. Nuvella will manage the project up to date of completion.

The proponent proposes to undertake construction activities for the development of Olupale Lodge in the Iipumbu Ya Tshilongo Conservancy, Oshana Region. The proposed development comprises of a 40-room luxury lodge inclusive of entertainment areas (restaurant, swimming pool, a spa and massage facilities), staff housing as well as supporting infrastructure such as water and power supply. The area has significant sustainable tourism potential, which will expose tourists to the wildlife-based tourism activities and a cultural experience in northern Namibia. The proposed development will also generate income for the local community and open-up future business frontiers. Agreements have been signed and finances are in place. The newly formed venture is designed to further spread financial, social and environmental benefits that eco-tourism can bring to local communities.

The proposed development, Olupale Lodge, is located 123 km North of Okaukuejo, 103 km South of Oshakati and 151 km west of Omuthiya town within the Iipumbu Ya Tshilongo Conservancy, Oshana region, in northern Namibia. The site can be accessed by informal tracks from the north and it is planned that formal access will be from the existing road network of the Etosha National Park (Figure 1).

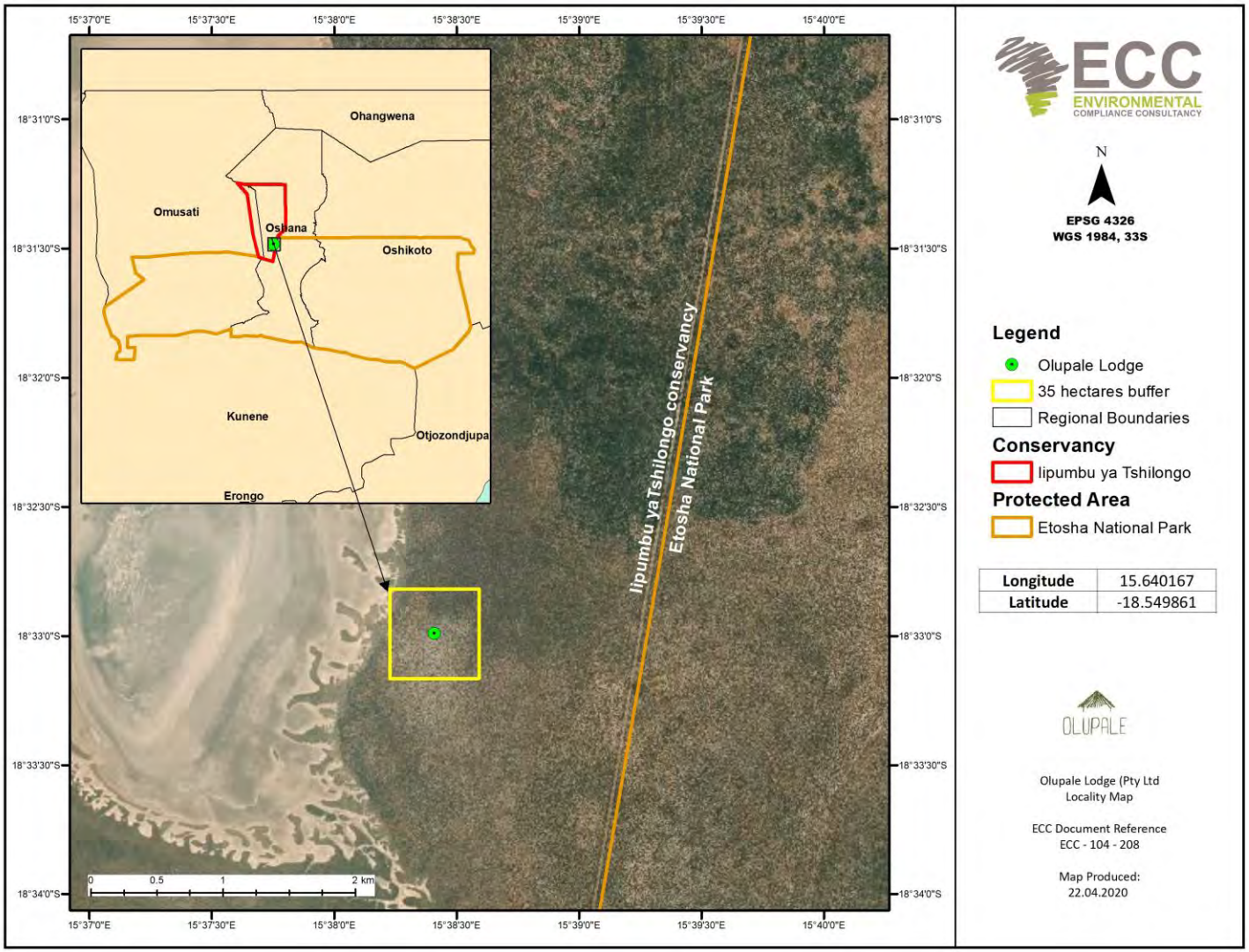

FIGURE 1 - LOCALITY MAP OF OLUPALE LODGE

1.2 Environmental Regulatory Requirements

In terms of the Environmental Impact Assessment (EIA) Regulations and the Environmental Management Act, No. 7 of 2007, the proposed development qualifies as a listed activity. Therefore, an application for an environmental clearance certificate is to be submitted. An environmental scoping report and EMP are required to be submitted as part of the application process, as well as to support the decision-making process. This report presents the EMP and has been undertaken in terms of the requirements of the act and its regulations.

1.3 The Proponent of the Proposed Project

Olupale Lodge (Pty) Ltd is an entity that has been established by the Nuvella Managerial and Marketing Services, which is the driving force behind the proposed project development. Christophe Van de Vijver is the Managing Director of the proposed development and contact person.

The proponents contact details are provided in Table 1.

TABLE 1 - PROPONENT DETAILS

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE	WEBSITE
Christophe Van de Vijver	P O BOX 90538 WINDHOEK	christopher@nuvella.com.na	+264 81 124 2269	N/A

1.4 Purpose and Scope of this Report

The purpose of this EMP is to provide a management framework for the proposed development so that the potential environmental impacts that could potential arise during construction and operation phases are avoided, minimised and mitigated as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

This EMP also presents protocols, procedures, roles and responsibilities to ensure the management arrangements are appropriately and effectively implemented. This EMP forms an appendix to the environmental scoping report and has been based on the findings of the assessment; therefore, the environmental scoping report should be referred to for further information on the proposed project, assessment methodology, applicable legislation, and assessment findings.

This EMP is a live document and shall be reviewed at predetermined intervals, and / or updated when the scope of works alters, or when further data / information can be added. All personnel working on the project will be legally required to comply with the standards set out in this EMP.

The scope of this EMP includes all activities carried out during the construction and operation phases for the Olupale Lodge.

1.5 Management of this EMP

The proponent will hold the Environmental Clearance Certificate for the proposed project and shall be responsible for the implementation and management of this EMP. Prior to the construction activities commencing, this EMP shall be reviewed, amended as required and approved ready for implementation.

The implementation and management of this EMP and thus the monitoring of compliance shall be undertaken through daily duties and activities and monthly inspections.

This EMP shall be circulated to all contractors and shall be made available on the Environmental Compliance Consultancy's (ECC) website.

1.6 Limitations, Uncertainties and Assumptions of this EMP

This EMP does not include measures for compliance with statutory occupational health and safety requirements. This will be provided in the health and safety management plan to be developed by the proponent.

Where there is any conflict between the provisions of this EMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines and relevant laws), the contract and statutory requirements are to take precedence.

The information contained in this EMP has been based on the project description as provided in the Environmental Scoping Report. Where the design or construction methods alter, this EMP may require updating and potential further assessment undertaken.

1.7 Environmental Consultancy

ECC, a Namibian consultancy (registration number Close Corporation 2013/11401), has prepared this EMP on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in both the public and private sectors. ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered.

All compliance and regulatory requirements regarding this document should be forwarded by email or post to the following address:

Environmental Compliance Consultancy
PO BOX 91193
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2 PROJECT MANAGEMENT PERSONNEL

This EMP provides measures, guidelines, and procedures for managing and mitigating potential environmental impacts. The EMP also indicates monitoring and reporting requirements and sets responsibilities for those carrying out management and mitigation measures. Olupale Lodge (Pty) Ltd shall provide a project team to oversee activities and responsibilities.

The concession operator contract between the Iipumbu Ya Tshilongo Conservancy and Nuvella (Pty) Ltd requires the appointment of an Environmental Control Officer to oversee activities during the construction phase, to ensure compliance and to oversee adherence to the EMP – during the construction as well as the operational phase.

2.1 Organisational Structure, Roles and Responsibilities

The proponent shall be responsible for:

- Ensuring all members involved in the operations of Olupale Lodge, comply with the procedures set out in this EMP.
- Ensuring that all personnel are provided with adequate training, supervision and instruction to fulfil this requirement.
- Ensuring that any personnel allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood.
- The proponent shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this EMP, and meet the responsibilities listed above.

The key personnel and environmental responsibilities of each role are tabulated below.

TABLE 2 - KEY ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITY & DUTIES
General Manager / Site Manager / Lodge manager	– Ensure adequate resources are made available for implementation of this EMP; – Responsible for providing the required resources (including financial and technical) to complete any required tasks – Maintain a community issues and concern register, and keep records of complaints – Ensuring that best environmental practice is undertaken throughout the construction and operation phases of the lodge – Report any non-compliance or accidents to the relevant authority
Environmental Control Officer	– Responsible for ensuring compliance with this EMP including overseeing all day to day activities during the duration of the project, including routine and non-routine maintenance works, as well as the operational phase of the project; – Ensure the environmental policy is communicated to all personnel; – Ensure all employees and contractors participate in a site induction process prior to commencing work on the project; – Maintain an up to date register(s) of employees who have completed the site induction; – Ensure all personnel are aware of the commitments made in this EMP and any other relevant regulatory requirements applicable to the project; – Ensure that all employees, contractors and visitors to the site are conversant with the requirements of this EMP, relevant to their roles on site and adhere to this EMP at all times;

ROLE	RESPONSIBILITY & DUTIES
	– Ensuring that all personnel are provided with enough training, supervision and instructions to fulfil this requirement; – Monitor daily operations and ensure adherence by personnel to the EMP; – Responsible for the management, maintenance and revisions of this EMP; – Maintain the community issues and concern register, and keep records of complaints; – Ensure that best environmental practice is undertaken throughout the duration of the project; and – Report any non-compliance or accidents to management.
Employees (and contractors as well as visitors where applicable	– Responsible for being compliant with and adhering to this EMP at all times – Ensuring they have undertaken a site induction and are conversant with the requirements of this EMP – Reporting of any operations and conditions that deviate from the EMP or any non-compliant issues or accidents to the proponent.

2.2 CONTRACTORS

Any contractors hired during the construction activities and accessory works for the project duration shall be compliant with this EMP and shall be responsible for the following:

- Undertaking activities in accordance with this EMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements
- Implementing appropriate environmental and safety management measures
- Reporting environmental issues, including actual or potential environmental incidents and hazards, to the proponent, and
- Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported by employees and subcontractors.

2.3 EMPLOYMENT

The proponent and all contractors shall comply with the requirements of the Regulations for Labour, Health and Safety, and any amendments to these regulations. The following shall be complied with:

- In liaison with local and regional authorities, the proponent shall ensure that local people have access to information about job opportunities and are considered first for construction / maintenance contract employment positions
- The number of job opportunities shall be made known together with the associated skills and qualifications. The maximum length of time the job is likely to last for shall be indicated
- Foreign workers with no proof of permanent legal residence shall not be hired, and
- Every effort shall be made to recruit from the pool of unemployed workers living in the surrounding area.

3 COMMUNICATION AND TRAINING

In order to ensure potential risks and impacts are minimised it is vital that personnel are appropriately informed and trained to ensure risks are mitigated. It is also important that regular effective communications are maintained with stakeholders (including local and regional authorities) and made aware of potential impacts and how to minimise or avoid them.

3.1 COMMUNICATIONS

The proponent shall communicate environmental issues to all personnel through the following means (as and when required):

- Ensure all personnel are afforded the opportunity to attend an environmental site induction that sets out their requirements in relation to this EMP
- Ensuring audits and inspections are undertaken regularly on a risk-based schedule
- Toolbox talks, including instruction on incident response procedures
- Deliver project specific environmental briefings where required
- Ensure all personnel have access to the EMP
- Ensure operators of key activities and environmentally sensitive operations are briefed and understand their requirements.

3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE

TABLE 3 - EMERGENCY CONTACT DETAILS

TOWN	AMBULANCE	POLICE	INTELLIGENCE SUPPORT AGAINST POACHING	FIRE BRIGADE	HOSPITAL SERVICES
Oshakati **Omuthiya**	+264 (65) 20-0211 +264 (81) 358-2124	+264 (65) 1-0111 +264 (65) 24-1066	+264 81 169 4715	+264 (65) 22-1258 +264 (65) 24-4700	+264 (65) 22-1184 +264 (67) 24-4317

For any other significant environmental incidents, all relevant local and regional authorities (including traditional authorities, line ministries, I&AP) should be contacted as required and the Ministry of Environment, Forestry and Tourism (MEFT) office informed of the incident (telephone +264 61 284 2111, Windhoek). All correspondence with MEFT should be undertaken by the general manager.

For the clean-up of smaller chemical spills, the relevant Material Safety Data Sheet (MSDS) should be consulted to determine the appropriate clean-up procedure. Basic chemical spill response training will be provided as part of the site environmental induction, spill response equipment, including relevant MSDS copies, will be provided in areas where potentially environmentally hazardous chemicals may be used.

3.3 COMPLAINTS HANDLING AND RECORDING

Any complaints received verbally or in writing by any personnel on the project site shall be recorded by the receiver on a complaint register (example attached as Appendix C) that will detail the name and contact details of the complainant, date and time of the complaint, nature of complaint, action taken to resolve issues, and date of complaint handover. The proponent shall be responsible for nominating the correct personnel to coordinate and resolve the issue.

The workforce shall be informed about the complaints register, its location and the person responsible, in order to refer residents or the general public who wish to lodge a complaint. The complainant shall be informed in writing of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The complaints register shall be kept for the lodge and will be available for government or public review upon request.

3.4 Training and Awareness

All employees of the proponent shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training and experience.

All personnel shall be inducted with specific environment and social awareness training. The environment and social awareness training shall ensure that personnel are familiar with the principles of this EMP, the environment and social aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures. The proponent shall ensure a register of completed training is maintained. The site induction should include, but not limited to the following:

- A general site-specific induction that outlines:
    - What is meant by “environment” and the EMP
    - What are the environmental risks of this facility
    - Why the environment needs to be protected and conserved
    - How operational activities can impact on the environment
    - What can be done to mitigate against such impacts?
- The inductee’s role and responsibilities with respect to implementing the EMP
- The site environmental rules
- Handling of encounters with wildlife
- Details of how to deal with, and who to contact, in the event of environmental problems should they occur
- The potential consequences of non-compliance with this EMP and relevant statutory requirements, and
- The role of responsible people for the project.

4 INCIDENT REPORTING

The proponent must have an accident and incident reporting system that covers all applicable statutory requirements. The section below sets out the minimum requirements for incident reporting and should be used as a basis for incident reporting, in the event that no incident reporting system exists.

4.1 MINOR INCIDENT OR "NEAR MISS"

Any incident or "near miss" involving the proponent, a nominated representative, any contractor, or its subcontractors or any third party's personnel, property, plant or equipment, must be

1) Orally reported to the general manager or the general managers nominated representative:
   a. Immediately and without delay
   b. Regardless of whether or not injury to personnel has occurred
   c. Or property or equipment has been damaged.

2) Written up and handed to the general manager or the general manager's nominated representative by the end of the shift. The written report should:
   a. State all known facts and conditions at the time of the incident and
   b. Includes a preliminary assessment of the most likely potential consequences of the incident under the current circumstances.

4.2 SERIOUS INCIDENT

For any serious incident involving a fatality, or permanent disability, the incident scene must be left untouched until witnessed by a representative of the Police or MEFT personnel (e.g. poaching). This requirement does not preclude immediate first aid being administered and the location being made safe.

4.3 INCIDENT REPORT AND CLOSE OUT

The general manager must investigate the cause of all work accidents and significant incidents and must provide the results of the investigation and recommendations on how to prevent a recurrence of such incidents. A formal root-cause investigation process should be followed.

5 COMPLIANCE AND ENFORCEMENT

5.1 Environmental Inspections and Compliance Monitoring

Annual inspections and audits of the lodge will be managed and undertaken by the proponent. All infrastructures will be inspected to ensure that operations as per specification; no damage has been caused; and no leaks or spills have occurred. Any non-conformance shall be recorded, including the following details: brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

5.1.1. Daily Compliance Monitoring

A copy of this EMP shall be on-site throughout the duration of the project and shall be available upon request. It is the responsibility of the general manager and deputy manager (or nominated site supervisor) to ensure this EMP is complied with through their daily roles. Daily, weekly and monthly inspections will be undertaken. Any environmental problems or risks identified shall be notified to the proponent and actioned as soon as is reasonably practicable.

5.1.2. Monthly Compliance Monitoring

Monthly inspections shall be undertaken by the general manager to check that the standards and procedures set out in this EMP are being complied with and pollution control measures are in place and working correctly. Any non-conformance shall be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action is taken and any necessary follow up measures required.

5.2 Non-compliance

Where it has been identified that work is not compliant with this EMP, the proponent shall ensure corrective actions are implemented so that the work returns to being compliant as soon as possible. In instances where the requirements of the EMP are not upheld, a non-conformance and corrective action notice shall be produced (refer to Appendix D). The notice shall be generated by the safety, health and environmental coordinator during the inspections and the proponent shall be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

A non-compliance event / situation, for example, is considered if:

- There is evidence of contravention of this EMP and associated indicators or objectives
- The proponent has failed to comply with corrective or other instructions issued by an authority, or
- The proponent fails to respond to complaints from the public.

5.3 Disciplinary Action

This EMP is a legally binding document and non-compliance with it shall result in disciplinary action being taken against the perpetrator/s. Such action may take the form of (but is not limited to):

- Fines / penalties
- Legal action

- Monetary penalties imposed by the proponent on the contractor
- Withdrawal of licence/s, and
- Suspension of work.

The disciplinary action shall be determined according to the nature and extend of the transgression / non-compliance, and penalties are to be weighed against the severity of the incident.

5.4 ENVIRONMENTAL PERMITS

Whilst the Water Resources Management Act, No. 11 of 2013 is not enforced, it is best practice to adhere to its stipulations while ensuring compliance with the Water Act, No. 54 of 1956, which is maintained still.

Should water not be sourced directly from existing water pipelines or private borehole, a licence to abstract water is required in terms of the Water Act, No. 54 of 1956 and shall operate in accordance with any conditions of the licence.

Since the proponent has taken it upon themselves to discharge effluent via another means the proponent must ensure that all documentation, permits and measures are in place before discharge occurs, including obtaining the relevant effluent discharge permit in terms of the Water Act, No. 54 of 1956 to be applied for at the Ministry of Agriculture, Water and Land Reform.

In order to obtain an effluent wastewater permit, the proponent should have the following information and complete the application form contained in Appendix A:

- Specification of the treatment system (type of technology)
- Description of major activities resulting in effluent generation
- List of contaminants (analysis of effluent samples)
- Effluent quality
- Points of discharge
- Show the present average quantities of incoming water, recycled water, final outflow, and
- Where final effluent discharged.

6 ENVIRONMENTAL AND SOCIAL MANAGEMENT

6.1 Environmental Performance Management

The summary of a register of environmental risks and issues identifies mitigation and monitoring measures, as well as roles responsible. This register will be subject to regular review by the proponent and updated when necessary. The proponent, general manager and deputy manager (or nominated site supervisor) will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

6.2 Objectives and Targets

Environmental protection is the responsibility of management and if the management is environmentally aware, it motivates all employees and their associated guests to think and act in a more environmentally responsible manner. Environmental objectives and targets have been developed so that activities of Olupale Lodge can minimise potential impacts on the environment, as far as reasonably practicable.

Environmental objectives for the project are as follows:

- Zero pollution incidents
- Minimal vegetation clearing and earthworks
- Protect local flora and fauna
- Use water and other natural resources effectively and efficiently, and
- Appropriate waste management and pollution control

6.3 Register Of Environmental Risks And Issues

An environmental review of the proposed project development has been completed to identify all the commitments and agreements made within the environmental scoping report. From this a list of environmental commitments and risks has been produced, which details deliverables including measures identified for the prevention of pollution or damage to the environment during the project.

Table 4 provides a register of environmental risks and issues, which identifies mitigation and monitoring measures, as well as the responsible person. This register will be subject to regular review by the proponent and updated when necessary. The proponent will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

TABLE 4 - ENVIRONMENTAL RISKS AND ISSUES, MITIGATION AND MONITORING MEASURES

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
General construction activities	– Potential grievances and complaints, – Social discomfort and anxiety	– Maintain continuous communication with I&APs to identify concerns and mitigation measures, – Compliance with all applicable laws and agreements – Training and raise awareness to sensitize employees about contentious issues such as stock theft and poaching – Ensure appropriate supervision of all activities – Accidents and incidents need to be reported to the general manager and recorded in incident register	– Weekly, monthly	General Manager, Environmental Control Officer
	– Residing, nesting and slow moving organisms can be disturbed, injured or killed by movement of people, vehicles and equipment	– Restrict movements to areas of activities only – Use existing tracks and routes only – Identify rare, endangered, threatened and protected species in advance – Route new tracks around protected species and sensitive areas – Restrict movements to daytime hours – Training and raise awareness to sensitize employees and notify them on avoiding some areas and encounters with wildlife – No driving off designated access routes (into the bush) / off-road driving – No animals or birds may be collected, caught, consumed, or removed from site – Rehabilitate redundant infrastructure (e.g. roads) – Main access road should be upgraded and maintained	– Weekly	Environmental Control Officer, employees
	– Residing, nesting and slow moving organisms can be disturbed as a result of ambient noise from constructions, movements of vehicles and equipment – Conflict with local	– Restrict excessive noise to areas of activities only, – Restrict excessive noise to daytime hours on weekdays and until midday on Saturdays), – No activities between dusk and dawn, – Construction equipment shall be suitably positioned to ensure that noisy equipment is away from receptors, – All equipment to be shut down or throttled back between periods of use	– Daily	Environmental Control Officer, employees

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	people about ambient noise			
	– Dust and emissions	– All vehicles and equipment to be shut down or throttled back between periods of use, – Use existing access roads and tracks where possible, – Apply dust suppression where possible, – Restrict speed of vehicles (<40km/h) near homesteads, – Specific activities that may generate dust and impact on residents shall be avoided during high wind events.	– Daily	Environmental Control Officer, employees
	– Loss of soil quality due to construction activities such as excavating, trenching and pollution, – Enhanced soil erosion – Loss of topsoil – Sand removal – Sandy and muddy roads	– Where possible, plan access routes outside of existing drainage lines – Where necessary, install diversions to curb possible erosion – Restore drainage lines when disturbed – Equipment must be in a good condition to ensure that accidental oil spills do not occur and contaminate soil – In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site, – Minimise the disturbance and removal of topsoil – If sand is required, it should be extracted from an existing / permitted borrow pit – Obtain the appropriate sand removal permits from the authorities – Ensure four-wheel off-road driving training especially for the game drivers, and – Strictly no off-road driving.	– Weekly	
Water resources and generation of wastewater	– Soil contamination – Ground and surface water contamination – Nuisance (Visual and odour)	– Minimise the consumption of water throughout the construction and operations of the project – Limit water wastage through good maintenance – Visual monitoring and photographic record of any surface and/or groundwater intersected – Recycle wastewater, where possible – Prevent the use of toxic substances and harmful chemicals (including herbicides and fertilizers) – Install devices to prevent spills and overfills, e.g. shutoff devices for large	– Daily inspection of operations	Environmental Control Officer

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		volume tanks (e.g. > than 2000lts) – Install an impermeable hardstand in areas of high-risk contamination to prevent ground infiltration by pollutants – Segregation of wastewater (domestic and industrial effluent) – During operations, monitoring of wastewater discharges should be conducted on a regular basis (quarterly)		
Generation of Solid Waste	– Impacts on the environment due to solid waste pollution – Nuisance (Visual impacts, litter) – Ecological risks	– Implement a waste management plan covering all aspects of waste generated on site – Training and toolbox talks – Avoid hazardous waste on site – Ensure high standards of housekeeping across site – Implement the waste management hierarchy across site: Avoid, reuse, recycle, then disposal – Waste storage areas shall always be kept clean and tidy – All solid waste must be collected and be disposed of by appropriately licensed disposal team's offsite. – Return packaging of materials (wherever possible), such as empty containers to supplier for reuse.	– Daily observations – Weekly inspections	Environmental Control Officer
Creation of dust and fumes during operations and vehicle movements in the area	- Impacts on the amenity, safety, public health and the environment.	– Use existing tracks where possible – No driving off designated access routes (into the bush) / off-road driving – Practise dust suppression mitigation measures- water sprinkling – Restrict movements to daytime hours especially during construction – Maintain a speed limit on the access road to the proposed site area – Communication with landowners/neighbours. – Vehicles and machinery are to be regularly serviced according to the manufacturers' specifications and kept in good working order so as to minimise exhaust emissions.	– Complaints register – Daily observations – Weekly inspections	Environmental Control Officer and employees
Inadequate control or	– Soil contamination – Water	**Storage** – Label chemicals appropriately	– Daily observations	Environmental Control Officer, and

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
accidental releases of hazardous substances on site / loss of containment	contamination	– Chemicals with different hazard symbols should not be stored together - clear guidance on the compatibility of different chemicals can be obtained from the Materials Safety Data Sheets (MSDS) which should be readily available – Store chemicals in a dedicated, enclosed, and secure facility with a roof and a paved/concrete floor. Chemical tanks should be completely contained within secondary containment such as bunding – Consider feasibility of substitution of hazardous chemicals with less hazardous alternatives. – Storage and handling of fuels and chemicals shall be in compliance with relevant legislation and regulations – Fuels, lubricants, and chemicals are to be stored within appropriately sized, impermeable bunds or trays with a capacity not less than 110% of the total volume of products stored **Fire risk** – Control and reduce the potential risk of fire by segregating and safe storage of materials, and – Avoid potential sources of ignition by prohibiting smoking in and around facilities, and – Fire extinguishers should always be at designated areas and should be inspected regularly. **Spills** The kits with the following items as a minimum should be made available on site: – Absorbent materials – Shovels – Heavy-duty plastic bags – Protective clothing (e.g. gloves and overalls) – Major servicing of equipment shall be undertaken offsite or in	– Weekly inspections	employees

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		appropriately equipped workshops – For small repairs and required maintenance activities all reasonable precautions to avoid oil and fuel spills must be taken (e.g. spill trays, impervious sheets). – Provision of adequate and frequent training on spill management, spill response and refueling must be provided to all onsite staff – No refueling is to take place within 50 meters of groundwater boreholes, surface water or streams. – Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks – All major petroleum product spills (spill of more than 200 litres per spill) should be reported to the Ministry of Mines and Energy (MME) on Form PP/11 titled "Reporting of major petroleum product spill', attached as Appendix B. **The following points therefore apply to all areas on the site:** – Assess the situation for potential hazards. – Do not come into contact with the spilled substance until it has been characterised and necessary personal protective equipment (PPE) is provided. – Isolate the area as required. **The following measures are to be implemented in response to a spill:** – Spills are to be stopped at source as soon as possible (e.g. close valve or upright drum) – Spilt material is to be contained to the smallest area possible using a combination of absorbent material, earthen bunds or other containment methods – Spilt material is to be recovered as soon as possible using appropriate equipment. In most cases, it will be necessary to excavate the underlying soils until clean soils are encountered		

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– All contaminated materials recovered subsequent to a spill, including soils, absorbent pads and sawdust, are to be disposed to appropriately licensed facilities – A written Incident Report must be submitted to the general manager.		
Biodiversity - Flora and fauna	Impact on fauna and flora	– Obtain permits for vegetation removal (if required) from the Directorate of Forestry – Ensure the potential introduction and spread of alien invasive species is prevented – Remove alien invasive species – Use existing tracks where possible – Obtain an agreement and / permit for creating new tracks from MEFT and other relevant authority, if required – Apply speed restrictions – Avoid off-road driving – Apply or design principles to avoid wildlife disturbance / interactions – Fabricate the proposed lodge and associated infrastructure to blend in with the background natural environment as practically as possible – Ensure that built structures are protected against elephant damage without harming animals – Enforce fire protection measures – Compliance with park rules	– Daily observations	General Manager, Environmental Control Officer, employees

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	Impact on biodiversity security	– Ensure that visitors to the concession area are in possession of valid park permits – Monitor and regulate tourism activities to ensure avoidance of disturbances of animals and adherence to visitor carrying capacity – A list of all staff employed during construction and operations is shared with the Conservancy and MEFT's Intelligence and the Investigation Unit (IIU) as well as the Anti-Poaching Unit. – Any changes to this list are shared within 48 hours – This list should include names, addresses, cell numbers and copies of employee ID's – A vetting process should be undertaken, with special attention given to the tour guides to ensure well trained and reliable guides are elected to work at the establishment – Regular awareness training must be conducted for all staff. This training should not be confined to the "can not do" activities but also the reasons for and impacts of such activities – Strict rules should be implemented that no sharing of rhino siting may be shared via verbal exchanges, geographical tagging of photographs or any other means – An agreed security plan must be in place which is to be shared with the Conservancy and MEFT's Intelligence and the Investigation Unit – No driving by night without permission or accompanied by personnel of the lodge or authority officials	–	
Noise and Light	Noise disturbance Light pollution	– Noise restrictions to be put in place in the event of excessive noise. – Maintain constant communication to stakeholders in case of events taking place – Implement low/dim lights during construction phase. – Subdues lighting / light suppression through designed and lay-out alternatives	– Daily observations	General Manager, Environmental Control Officer

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– Limit working hours to daylight on weekdays and until midday on Saturdays – No driving by night without permission or accompanied by personnel of the lodge or authority officials		
Heritage	Disruption of heritage sites	Discovery of unearthed archaeological remains to be uncovered, the following measures (chance find procedure) shall be applied: – Works to cease, area to be demarcated with appropriate tape by the site supervisor, and the Site Manager to be informed – Site Manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform the Environment and Social Manager with the GPS position if possible – If works cannot proceed without damage to findings, Site Manager to inform the Environmental Manager who will get in touch with an archaeologist who will provide advice – Environment and Social Manager / Archaeological Specialist to evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave in situ (depending on the nature and value of the remains) – Inform the police if the remains are human, and – Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as direct.	– Daily inspection	General Manager, Environmental Control Officer
Job creation, skills development and business opportunities	Beneficial socio-economic impacts on a local and regional scale	– Maximise local employment and local business opportunities – Enhance the use of local labour and local skills as far as reasonably possible – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible	– Monthly	General Manager

7 IMPLEMENTATION OF THE EMP

This Environmental Management Plan (EMP):

A. Has been prepared according to a contract with the proponent
B. Has been prepared based on information provided to ECC up to March 2020
C. Is for the sole use of the proponent, for the sole purpose of an EMP
D. Must not be used (1) by any person other than the proponent or (2) for a purpose other than an EMP, and
E. Must not be copied without the prior written permission of ECC.

APPENDIX A: APPLICATION FOR A WASTEWATER DISCHARGE LICENCE

DEPARTMENT OF WATER AFFAIRS & FORESTRY

FAX:	(061) 208 7160	PRIVATE BAG 13184
TEL:	(061) 208 7111	WINDHOEK
REFERENCE NO:		NAMIBIA

APPLICATION FOR A WASTEWATER DISCHARGE LICENCE, IN TERMS OF PART XIV OF THE WATER RESOURCES MANAGEMENT ACT, 2004

(Act No. 24 of 2004 - as published in the Government Gazette of the Republic of Namibia, No. 3357, of 23 December 2004, Government Notice No. 284)

A. GENERAL INSTRUCTIONS

1. Applications must be submitted in duplicate to:

   The Permanent Secretary
   Attn.: Law Administration
   Ministry of Agriculture, Water and Forestry
   Private Bag 13184
   WINDHOEK

2. Application Fee (to accompany this document): N$_____

3. The various sections have to be completed as follows:

   Section B & C - All applicants
   Section D - Complete only the part relevant to technology employed in your works.
   Section E - All applicants (compulsory!)

4. Only the relevant Sections that have been filled in need to be submitted with this application.

5. A separate application needs to be filled in for each different plant/works.

NAME OF TREATMENT PLANT/WORKS: _____

PLACE: _____ **GPS Coordinates:** _____
(e.g. town, settlement)

1

B. GENERAL INFORMATION

1. Name of applicant: _____

2. Address - Contact Person: _____
   - Postal: _____
   - Physical: _____
   - Tel No.: _____
   - Fax No.: _____
   - E-mail: _____

3. Region in which plant is situated: _____

4. Constituency in which plant falls: _____

5. Type of establishment:
   (e.g. school, town, industry) _____

6. Source of water supply:
   (e.g. borehole, river, sea) _____

7. Total water consumption: _____ m^3/day ADWF*

   (*ADWF = Average Dry Weather Flow) _____ m^3/day ADWF*

   - Consumption based on the average usage over a 12-month period. _____ m^3/day ADWF*
   - List different sources separately _____ m^3/day ADWF*

8. Application:

   - Prepared by: Name : _____ Position: _____

     (e.g. Consultant) Signature: _____ Date: _____

   - Responsible Executive: Name : _____ Position: _____

     Signature: _____ Date: _____

2

C. TECHNICAL DETAILS - GENERAL

Answers to the following information must be contained in this application either from the questionnaire or as an attachment thereto (see also details in Appendix A):

NAME OF TREATMENT PLANT/WORKS: _____

1. Type of effluent (please also refer to Section D for classifications): _____

2. Site of works:

2.1 Submit a site plan indicating the exact location (or intended location) of the works. This plan should indicate (as a minimum):

2.1.1 General location of the works with regards to settlements, main roads, boreholes, rivers etc.

2.1.2 Layout plan of property showing all existing and proposed water pipes and effluent and drainage lines in distinctive colours.

2.1.3 Topographical plan/area photograph/contour plans showing the property and effluent treatment plant in relation to residential areas, rivers, pans, dams, lakes and boreholes.

2.1.4 Contour plans indicating the exact location of the effluent treatment works and point of discharge of final effluent in relation to watercourses that drain the area.

2.1.5 Give the following information:

2.1.5.1 Distance to nearest inhabitants: _____m

2.1.5.2 Distance to nearest water abstraction point (e.g. river, borehole): _____m

2.1.5.3 Distance to nearest watercourse (e.g. dry river) and specify: _____m

2.1.5.4 Wind direction (main/normal) _____

2.2 Submit overall details of works:

2.2.1 Type of effluent treatment system and a brief description of its method of operation. (If domestic effluents are dealt with by the local authority please enclose a letter from the authority confirming this agreement).

2.2.2 Flow diagram/mass balances to show the present average quantities of incoming water, recycled water, final outflow, seepage and evaporation losses (all in m^3/day).

2.2.3 Layout orientation drawing indicating all major treatment units and fence around works.

2.2.4 Complete flow diagram and key design parameters to include:

2.2.4.1 Dimensions and design capacities of each unit process;

2.2.4.2 Process Flow Diagram(s) and major instrumentation employed, e.g. water meters;

2.2.4.3 Loadings on the system (e.g. hydraulic, COD, BOD, nitrogen, phosphate);

2.2.5 Indicate allowances that have been made for future expansion and increased loads (if any).

2.2.6 Methods of sludge disposal or recirculation.

2.2.7 Disinfection of the final effluent (indicate dosing type, method, retention period and optimum disinfectant level in final effluent).

3. Monitoring boreholes for monitoring groundwater pollution over time must be available within 500 m of the point of final effluent discharge.

4. Please note: Additional information is required for new treatment plants (e.g. an environmental impact assessment) - details can be obtained from the Department of Water Affairs and Forestry.

5. All relevant information must be included with this application. **It is a criminal offence to deliberately withhold vital information relevant to this application.** Where applicants are found to be in contravention with this requirement, they may/will be prosecuted.

3

D. TECHNICAL DETAILS - SPECIFIC

Applicants should only complete sections relevant to their specific effluent (please tick relevant box):

☐	D-1: Domestic Effluent - Includes wastewater collected in towns (excluding industrial effluent!), villages, schools, lodges, administration buildings.
☐	D-2: Industrial Effluent - Includes wastewater generated by any industry, factory, etc.
☐	D-3: Mining Effluent - Includes wastewater accumulated or collected due to mining operations (e.g. Acid mine wastewater)
☐	D-4: Combination/mix of various effluents (list major effluent streams on page 11)

Final Effluent Reuse

The pressure on Namibia's existing fresh-water supplies can, to a great extent, be eased by the sensible reuse of effluents for a variety of purposes including dust control, agriculture and industrial processes. Therefore, reuse of effluent after suitable treatment is encouraged.

The allowable reuse of an effluent is dependent upon its quality as well as many local circumstances and hence each application in this category needs careful and individual scrutiny, which should be undertaken by a specialist in this field and must be supported by an environmental impact assessment study.

A separate licence for effluent reuse is required and more details in this regards can be obtained from the Department of Water Affairs and Forestry.

D-2. INDUSTRIAL EFFLUENTS

Plant Name: ……

2.1	Describe industry and major activities resulting in effluent generation		
2.2	Capacity / Flowrates :		
	Design - Average daily flow		m^3/d
	- Peak hourly flow		m^3/h
	Actual (if in operation) - Average daily flow		m^3/d
	- Peak hourly flow		m^3/h
	If ponds are employed, state total surface area		m^2
2.3	List only major contaminants (also attach full analysis of typical effluent sample)		
2.4	Type of treatment employed (give short overview of process):		
2.5	List major treatment chemicals* employed in the unit process(es):		
2.6	Final effluent quality after treatment (put envisaged final quality for a new plant):		
2.7	Sludge generation:		
	- Volume generated		m^3/d
	- Mass		kg/d (dry solid)
	- Method of disposal		
	- Place of disposal		
	- Major constituents		
	- If sludge ponds, state frequency of cleaning		
2.8	Do you employ cleaner production principles (CPP)? Yes/No If "yes", elaborate:		
2.9	Is the following documentation included (give reason if not)? ▪ Water (and waste) management plan: Yes/No ▪ Decommissioning plan: Yes/No		

* For the chemicals employed, proper mass balances should be included that show chemical usage, movement and discharge within the factory/process(es). All safety aspects related to handling, storage and disposal of chemicals on site must be followed at all times.

D-4. COMBINATION OF VARIOUS EFFLUENTS

Plant Name: .....

4.1	Describe major activities resulting in effluent generation (e.g. type of industry):				
4.2	Capacity / Flowrates of different streams (major only)	1	2	3	
	Type (e.g. domestic, industrial, mining, others)				
	Design - Average daily flow				m^3/d
	- Peak hourly flow				m^3/h
	Actual (if in operation) - Average daily flow				m^3/d
	- Peak hourly flow				m^3/h
4.3	List only major contaminants (also attach full analysis of typical effluent sample)				
4.4	Type of treatment employed (give short overview of process)				
4.5	List major treatment chemicals employed in the unit process(es):				
4.6	Final effluent quality after treatment (put envisaged final quality for a new plant)				
4.7	Sludge generation:				
	- Volume generated				m^3/d
	- Mass				kg/d (dry solid)
	- Method of disposal				
	- Place of disposal				
	- Major constituents				
	- If sludge ponds, state frequency of cleaning				

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E. FINAL EFFLUENT DISPOSAL

1.4.1	Where is the final effluent discharged to? (E.g. French drain, pumped out by Local Authority, dry river course, perennial river, etc.)	
1.4.2	IF soakaway, state: - Type of soil - Suitability/porosity of soil - Size of soakaway area - Include topography and plan of soakaway area	
1.4.3	Is there any post-treatment applied? (e.g. disinfection, filtration)	
1.4.4	Is the final effluent re-used? (Yes/No)	
	If "Yes", complete:	
	- Do you have a reuse licence?	
	- Amount of water that will be re-used:	m^3/d
	- For what application:	
	- Type of irrigation used (if applicable):	
	- What crops are grown:	
	- Area of land that will be irrigated:	ha
1.4.5	Name (if any) downstream users (downstream of discharge point).	
1.4.6	Past records of complaints or objections by people living close to works:	

Reuse:
A reuse licence is required – details can be obtained from the Department of Water Affairs and Forestry.

Irrigation:

The crops allowed to be irrigated are dependent upon effluent quality (details will be supplied on request by the Department of Water Affairs and Forestry).

APPENDIX B - REPORTING OF MAJOR PETROLEUM PRODUCT SPILL FORM PP/11

FORM PP/11

MINISTRY OF MINES AND ENERGY

PETROLEUM PRODUCTS AND ENERGY ACT, 1990
PETROLEUM PRODUCTS REGULATIONS (2000)

REPORTING OF MAJOR PETROLEUM PRODUCT SPILL

(Regulation 49(1))

(Please note that where form is completed by hand it must be completed in capital letters)

1. Name of licence/certificate-holder/person .....
.....
*(*Delete whichever is not applicable)*

2. Postal address .....
.....

3. Physical address .....
.....

4. Telephone Number (including code) .....

5. Facsimile Number (including code) .....

6. Licence/certificate* number and date of issue, if applicable .....
.....
*(*Delete whichever is not applicable)*

7. Date of petroleum product spill .....

8. Location of petroleum product spill .....
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9. Reasons for petroleum product spill .....
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10. Type of petroleum product involved in petroleum product spill .....
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11. Quantity of the petroleum product spill .....
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12. Indicate whether the petroleum product has or will have any negative effect on the environment and the safety and health of person or the property of persons .....
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13. Provide full details of all remedial actions taken to minimise risks associated with petroleum product spills and all cleaning-up operations taken in connection therewith .....
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DECLARATION

I, ..., hereby declare that the information submitted by me in this application is true and correct.

....
Signature *Place* *Date*

APPENDIX C - COMPLAINTS REGISTER TEMPLATE

NAME	CONTACT DETAILS	DATE AND LOCATION OF COMPLIANT	NATURE OF COMPLIANT	ACTION TAKEN TO RESOLVE	NOMINATED PERSON TO RESOLVE ISSUE *(Signature)*	DATE OF RESOLUTION/ CLOSED OUT COMPLAINT

APPENDIX D - MONTHLY INTERNAL COMPLIANCE CERTIFICATE

FOR THE PERIOD …… TO ……

MANAGEMENT REPRESENTATIVE:	SIGN:
SHE COORDINATOR:	SIGN:

Date of Submission: _____

Key activities on site during the month: _____

_____

_____

_____

NON-CONFORMANCE:

Area of activity: _____

_____

_____

Reason: _____

_____

_____

Responsible party: _____

_____

Results: _____

_____

_____

_____

_____

Correction action taken: _____

_____

_____

_____

Intended follow-up: _____

_____

_____

_____

GOOD PERFORMANCE:

Description of activity or action in which the area/person went beyond compliance towards responsible care for the environment:

_____

_____

_____

_____

ADDITIONAL COMMENTS:

_____

_____

_____

_____