

## ENVIRONMENTAL MANAGEMENT PLAN (EMP)



**FOR THE PROPOSED ESTABLISHMENT OF A CHICKEN ENTERPRISE AT  
TOV FARM, TSINTSABIS AREA, OSHIKOTO REGION**

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## DOCUMENT INFORMATION

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<b>Location</b>	Plot No. 18 Oerwoud No. 1150, Guinas Constituency
<b>Proponent</b>	

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Tortoise  
Environmental  
Consultants (TEC)  One step @ a time

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## **ABBREVIATIONS**

<b>DEA</b>	Department of Environmental Affairs
<b>EA</b>	Environmental Assessment
<b>EAP</b>	Environmental Assessment Practitioner
<b>ECC</b>	Environmental Clearance Certificate
<b>ECO</b>	Environmental Compliance Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	Environmental Management Act (Act No. 7 of 2007)
<b>MET</b>	Ministry of Environment and Tourism
<b>TEC</b>	Tortoise Environmental Consultants

# 1 INTRODUCTION

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## 1.1 TOV Evergreen Farm Enterprise

TOV Evergreen Farm Enterprise (the Proponent) proposes to establish a chicken enterprise on plot number 18 of farm Oerwoud number 1150 in the Guinas Constituency, Oshikoto Region. The proposal is to build a 276m<sup>2</sup> chicken coop (equipped with an egg laying facility) on its 10ha farm.

The ultimate objective is to produce eggs in commercial quantities. The chicken coop will accommodate a total of 25 cages and each cage will have 96 egg laying hens at a time. Overall, the facility will house 2,400 egg laying hens /layers per cycle which are expected to produce approximately 1800 eggs per day.

The Environmental Management Act (also referred to as the EMA), stipulates that for each developmental project, which is listed under the EIA regulations, an Environmental Impact Assessment (EIA) should be conducted. Establishing a chicken enterprise is however not listed as a triggered activity. This means that the proponent is not compelled to obtain an Environmental Clearance Certificate (ECC) from the Ministry of Environment and Tourism.

The proponent is required by the funding agency to develop an Environmental Management Plan (EMP). The EMP will be used as a tool that will guide construction and operation activities of the proposed chicken enterprise. It will further be used as a monitoring reference guide to ensure compliance to prevailing legal frameworks.

## 1.2 Environmental Management Plan (EMP) Context

This document constitutes the Environmental Management Plan (EMP) for the proposed chicken rearing facility that is proposed to be established at TOV farm in Tsintsabis district. The EMP has been developed in accordance with the provisions of the Environmental Management Act (Act No.7 of 2007), EIA Regulations of 2012 and any other relevant / applicable legislation (across all sectors).

## 1.3 What is an EMP?

The EMP outlines mitigation measures against specific activities, steps, stages or processes of the proposed development. Thus, the EMP can be defined as the tool to

prevent / minimize the impacts identified during the EIA process. Furthermore, the EMP outlines specific roles and responsibilities for role-players against which they can be evaluated and non-compliance is punishable.

#### **1.4 Purpose**

This EMP has been developed in fulfilment of the requirements of the Social Security Commission of Namibia and in accordance with the Environmental Management Act (Act No.7 of 2007), and any other relevant / applicable legislation.

The (EMP) is a tool aimed at mitigate potential environmental risks associated with the proposed project / activity. The EMP provides a risk strategy and logical framework for implementation during the construction and operation of the proposed tourism development project, in order to mitigate potential environmental and social impacts.

#### **1.5 Objective**

The objective of the EMP is to prevent / minimize (where possible), unacceptable and adverse environmental, social or economic impacts that may arise from the proposed development. Overall, the EMP aims to prevent any negative impact/s (real, potential or perceived) that may result from the proposed development.

#### **1.6 Scope**

The EMP does not only focus, and it is not limited to the boundaries of the proposed zones and tourism development activities, but it includes the bigger picture, and serve as the guiding tool to protect the natural, bio-physical and socio-economic environment both in the surrounding area, and beyond the scope of the tourism development activities. The bigger picture is important because, most impacts (e.g.. water pollution, noise pollution, ecological impacts, solid waste etc..) may not be confined to the boundaries of the tourism development sites.

#### **1.7 Possible adjustment to the EMP**

The EMP is an open-ended document and maybe considered inconclusive. In other words, the EMP should allow room for adjustments if new information becomes available at a later stage, in which new / additional mitigation measures may become necessary. The necessity of possible adjustments to the EMP at a later stage may be attributed to:

- a) Lack of information at the time of drafting the initial EMP,
- b) Evolution or addition of new activities, or
- c) Unintended omission of potential impacts during the initial project design and development of the initial EMP.
- d) Development of industry best practice.

This implies that, in-addition to the information contained herein, any other relevant information that may surface during the construction operations, through internal monitoring or auditing by the Environmental Compliance Officers (ECOs), can be added to the EMP (evolution of activities), and such changes or inclusions will be binding to the proponent and all contractors / sub-contractors.



## 2 PROJECT INFORMATION

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### 2.1 Project description

TOV evergreen farm is owned by Tov HIV/AIDS Orphans & Vulnerable Children which is a Charity Organisation. TOV is currently looking after 65 Orphans and vulnerable children in terms of providing basic services to them including shelter, food, paying for school fees and clothing.

This agricultural development triggers listed activities in terms of EIA regulations, promulgated under EMA no 07 of 2007. The development would assist TOV Evergreen to farm egg laying chickens commercially in support of about 65 TOV Orphans and Vulnerable Children. TOV acquired funding support for this development from Social Security Commission of Namibia. However, for the proposed development to be authorized, several criteria need to be met including obtaining an environmental clearance certificate.

This EMP is submitted to EC, DEA, MET as part of the application for the Environmental Clearance Certificate for the proposed construction of a 0.0 278-hectare Chicken Egg-Layering Facility on a 10 hectare TOV Evergreen Farm situated in Oerwoud farm in the Tsintsabis area in the Oshikoto region. The project applicant is TOV Evergreen Integrated Farming Enterprise which is a non-profit organization.

### 2.2 Project Rationale

TOV was formed in January 2001 in response to the growing number of Orphans and Vulnerable Children in Oshikoto Region. This project is a community-based initiative aimed at two key areas i.e.

- To assist and support Orphans and Vulnerable Children (OVC's) at their center in Tsumeb with provision of eggs;
- To serve as an income generating scheme and ensure food security; and
- To provide employment and economic enhancement for local community members.

The support for OVC's consists of a daily feeding programme that operates from TOV Centre. Additionally, 54 children have their school fees, school clothing and school equipment provided by TOV. TOV also provides after school activities, including life skills programmes, which are aimed at equipping children with self-esteem, knowledge and skills to protect themselves against HIV/AIDS and to care for others who are infected or affected by the disease.

## 2.3 Project Location

TOV Farm is located on plot number 18 of farm Oerwoud number 1150 in the Guinas Constituency, Oshikoto region (see Figure 1 overleaf).

## 2.4 Current Farming Activities

TOV Farm is currently engaged in horticultural production where a vegetable garden provides fresh produce for the OVC centre in Tsumeb. A few livestock (cattle and goats) are also kept on the farm. A borehole powered by a solar system is used to supply water for the farming activities. See pictures as presented below:

**Table 1: Photographic presentation of the current activities on the farm**





Figure 1: Locality map of TOV Farm as demarcated with the red polygon

## 3 COMPLIANCE AND LEGAL REQUIREMENTS

### 3.1 Compliance to the EMP

The EMP is a binding document. This implies that all role players in the establishment of the chicken enterprise should comply with the EMP throughout the project lifespan. Non-compliance may have serious consequences e.g. withdrawal of licenses by the authorities, which means project closure. The EMP outlines mitigation measures against specific steps, stages or processes of the proposed development. Thus, the EMP can be defined as the tool used to prevent / minimize the impacts identified.

The proposed chicken enterprise will be established on an existing farming plot with other farming activities such as livestock rearing and gardening. As such, the proposed chicken enterprise does not require a full environmental impact assessment to be conducted. Therefore, the environmental assessment will not compose of a full EIA but it will be limited to a concise EMP.

### 3.2 Listed Activities

The proposed project triggers a number of Listed Activities as set out in the Environmental Management Act, 2007 (Act No. 7 of 2007) (herein referred to as the EMA) and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) (herein referred to as the EIA Regulations).

Listed Activities may not be undertaken without an Environmental Clearance Certificate (ECC), and hence an Environmental Impact Assessment (EIA) is required. The EIA entails the development of the EIA Scoping Report and Environmental Management Plan (EMP) which should be submitted to the MET as part of the application for the ECC.

*Table 3-1: Listed Activities triggered by the proposed project*

Listed Activity	Activity Description	Relevance to the proposed project
Activity 8 Water Resource Developments	8.9 Construction and other activities within a catchment	The farm is located within Cuvelai catchment. Precautions may need to be applied to mitigate for any disturbances to water channels.

### 3.3 Water Abstraction Permit

In addition to the Environmental Clearance Certificate (ECC), TOV is required to obtain consent from the Ministry of Agriculture, Water and Forestry on the water abstraction status. There are boreholes existing on the farm however, the proponent needs to

establish the amount of water that will be consumed. Should it be found that the water demand for the chicken enterprise exceeds the allowed amounts, a Water Abstraction Permit will need to be obtained.

Table 3-2: National Statutes

National Statutes	Summary	Applicability to the Proposed Project
Environmental Management Act, 2007 (Act No. 7 of 2007) and associated regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application.	This EMP documents the process to be undertaken for the proposed project, which will form part of the environmental clearance application. The project activities will have to be undertaken in line with the requirements under the Act and associated regulations.
Water Resources Management Act 2004 (Act No. 24 of 2004)	Whilst approved and published in the Government Gazette, it is not legally enforced.	Whilst not in operation, it is best practice to adhere to the conditions in these Act.
Forest Act 12 of 2001 Forest Act Regulations 2015	To provide for the protection of the environment and the control and management of forest.	There shall be some vegetation removal as part of the proposed project. If vegetation within 100m of the river needs to be cleared, a permit shall be obtained prior to clearance.
National Heritage Act, No. 27 of 2004.	The Act provides provision of the protection and conservation of places and objects with heritage significance.	There is potential for heritage objects to be found on the development site, therefore the stipulations in the Act have been taken into consideration and are incorporated into the EMP.

### 3.4 Disciplinary Action

The EMP is a legally binding document and non-compliance with the EMP 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,
- Withdrawal of license/s
- 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.

### 3.5 None compliance

The Proponent shall be deemed to have **not** complied with the EMP if:

- There is evidence of contravention of the EMP and associated indicators.
- The Proponent failed to comply with corrective or other instructions issued by the ECO or qualified authority.
- The Proponent failed to respond to complaints from the public.

### 3.6 Social Security's Requirements

The ESMP presents potential environmental and social impacts, and corresponding mitigation measures in-order to satisfy the Social Security, s conditions in accordance with the project approval facility, as follows:

- Condition 1, Schedule 6: which states that: *“The Proponent shall prepare and implement a Construction Management Plan for the development to be carried out to the satisfaction of the Director-General. The plan shall be submitted to the Director-General for approval prior to the commencement of construction”,* and
- Condition 1, Schedule 3: which states that: *“The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or decommissioning of the Project”.*

## 4 ROLES AND RESPONSIBILITIES

This section outlines the roles and responsibilities of the key personnel responsible for the day to day management of activities to ensure effective implementation of the EMP.

### 4.1 Roles and Responsibilities

The contents of this document is binding to all parties who have a role to play in the **design, construction, operation and decommissioning** of the Chicken Egg Layer facility, as defined in Section 5 and 6 herein, respectively.

*Table 1.1.1: Role players, Institutions and Responsibilities*

Role-player	Company / Institution	Role
Proponent	TOV EBERGREEN FARM	Owner, Business Plan and compliance to EMP
Environmental Consultant	M.N Kaholongo	Development of the EMP
Environmental Compliance Officer (ECO)	Social Security Commission of Namibia	Monitoring compliance to EMP (unannounced spot checks), warning, fines, etc.
Public	Interested and affected parties (I&APs)	Report to the ECO / MET, any unethical behavior / activity, environmental concern, noise, dust, safety etc.

#### **4.1.1 The Environmental Compliance Officer (ECO):**

The ECO refers to the party responsible for the environmental monitoring and auditing to ensure that the provisions of the EMP are complied with. The ECO shall have adequate environmental knowledge to understand and interpret the EMP and pertaining environmental aspects associated with the project. The specific tasks of the ECO are as follows:

- To undertake all monitoring and auditing activities in-order to ensure compliance with the EMP.
- Conduct site inspection prior to the commencement of activities; and at reasonable intervals throughout the duration of the project.
- Compile Progress Reports immediately after site inspections, Compliance Reports, pertaining to any non-compliance incident/s, and a Rehabilitation Report following the conclusion a specific activity.
- Shall provide guidance on any environmental management issues, incidents or emergencies that may arise throughout the project lifespan.
- Shall assist in providing recommendations for remedial action in the event of non-compliance.
- Auditing or monitoring activities may involve investigation, as well as structured observation, measurement, and evaluation of environmental data over a period of time.

#### **4.1.2 The Proponent:**

The specific responsibilities of The Proponent are as follows:

- Appoint a Site Manager (SM) to oversee the daily onsite activities.
- Liaise closely with the SM and ECO on any environmental management issues, incidents or emergencies.
- Ensure that all activities on and around the site are conducted in accordance with the requirements of the EMP at all times.
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the EMP, relevant to their roles on site.

#### **4.2 EMP Implementation Context**

Environmental management is not only concerned with the final results of The Proponent's operations, but also with how such operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standards of the day-to-day operations required to complete the Works.



## **5 PROJECT DESIGN AND PLANNING**

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The EMP provides mitigation measures in accordance with the scope of work during the construction and operations of the proposed tourism development. The recommended mitigation measures should be considered at all stages / phases of the development process as follows:

- Design;
- Planning;
- Site preparation, and
- Construction and Operational Phase

### **5.1 Design phase**

The design phase entails the conceptual framework (what, where, how big, etc..) and architectural design (sketch and projected image), and machinery required for the proposed development. Already at this stage, it is important that, already at this stage, the Architectural and Engineering design, should take environmental aspects and standards into consideration (e.g. aesthetic value, habitat alteration, visual / image upon completion, waste management – both during the construction and operational phases, etc.).

### **5.2 Planning phase**

During the planning phase, it is imperative that the design is re-evaluated and if any environmental concern is detected at this stage, corrective measures should be applied. In-addition, a contingency plan should be in place, in case, unforeseen environmental concerns are detected later.

### **5.3 Construction and Operational Phase**

For ease of reference and monitoring during operation, the EMP is sub-divided into different themes and for each theme, the following aspects are highlighted:

- Potential Impact,
- Environmental Management Objective
- Mitigation Measures / Management Action/s required
- Indicator/s for Monitoring and Compliance
- Party responsible for implementation

## 6 POTENTIAL IMPACTS AND MITIGATION MEASURES

### 6.1 Impact Themes and Recommended Mitigation Measures

The EMP has been categorised into different themes, which serve as a quick guide to the recommended EMP remedial actions during the construction and Operation stages (Table 6.1 to 6.7).

EMP Themes	Specific Aspects
A – Staff induction	Induction
	Site Demarcation
	Communication
B – Health and Safety	General safety at work place
	Road Safety
	Ablution facilities
	Dust and Noise
C – Pollution and Waste Management	Any other waste
	Soil and Water Pollution
	Ablution facilities
	Waste Disposal
E – Socio economic	Employment opportunities for Locals
	Alcohol and Drug use
	Working hours
	HIV / AIDS
	Safety and Security
F – Cultural Heritage	Heritage resources / artefacts
G – Rehabilitation	Clean-up and maintain natural / original appeal

## SECTION A: STAFF INDUCTION

Table 6-1: Mitigation measures pertaining to staff Recruitment and Induction

<b>Potential Sources of Impacts:</b>				
<ul style="list-style-type: none"> <li>✓ Employees working without employment contracts (recipe for labour disputes)</li> <li>✓ Lack of adequate induction to inform the workers about the Do's and Don'ts</li> <li>✓ Lack of formal orientation of the construction workers process (confusing and disorientation of workers)</li> <li>✓ Poor Communication</li> <li>✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities / actions</li> </ul>				
<b>Impact</b>	<b>Objective</b>	<b>Mitigation Measures</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Recruitment</b>	To ensure that all workers have employment contracts (Labour Act No. 11 of 2007)	Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later on	Copy of staff contracts	Proponent / Site Manager
<b>Staff Induction</b>	To ensure that all staff / employees are conversant with the requirements of the EMP	<p>Induction for all workers on the provisions of the EMP before work commencement, covering but not limited to: Safety, Health and Environmental (SHE) measures, emergency response, reporting of incidents, HIV/AIDS awareness, alcohol and substance abuse, etc.</p> <p>Staff operating equipment (such as trucks, loaders, jack hammers,</p>	<p>Induction Minutes and Attendance Register, Signed by each and every staff member</p> <p>Staff members appointed at a later stage should also undergo induction</p>	Site Manager

		compressors etc..) shall be adequately trained and sensitized against potential hazards  Conduct Quarterly induction reviews and reflect on workers conduct	Quarterly minutes	
	Availability of the EMP on site for ease of reference	Ensure that a copy of the EMP is kept on site and accessible by team leaders	Availability of EMP on site and accessibility by team leaders	Site Manager
	Punitive measures for staff, to ensure compliance	Adopt a disciplinary system to discipline staff for non-compliance, for offences such as littering, speeding, safety risk (both to themselves and to others), not using ablution facilities, etc..	Number of fines issued daily / per month	Site Manager
<b>Communication</b>	Ensure effective communication throughout the and construction period (project lifespan)	Develop a communication strategy (Chanel & medium of communication)  All correspondence should be written and signed off by witnesses (e.g. Site Manager / team leaders)  The contact numbers for the Site Manager and Team Leaders must be available onsite (displayed) in case of emergencies.	Communication Strategy  Letters, e-mail, Notices, Minutes  List of contact numbers available on site	Site Manager

<p><b>Site Demarcation</b></p>	<p>To contain all project activities within the site boundaries and prevent and construction activities from extending beyond the and construction claims</p>	<p>Demarcate the and construction site with visible marking (e.g. fence, pegs, tape etc.)</p> <p>If need be, obtain permission from relevant authorities to make use adjacent land e.g. for temporary staff accommodation or machinery warehouse</p>	<p>Temporary fencing or any other visible site demarcation in place</p> <p>and construction activities are contained within the project site</p>	<p>Site Manager</p>
<p><b>Notice Board</b></p>	<p>To warn any person (employees and public) entering the and construction site</p>	<p>Erect a notice board at the site entrance to notify employees and the public that they entering a and construction site</p>	<p>Visible notice board</p>	<p>Site Manager</p>

## SECTION B: OCCUPATIONAL HEALTH AND SAFETY

Table 6-2: Mitigation measures pertaining to Health and Safety

<b>Potential Sources of Impacts:</b>				
<ul style="list-style-type: none"> <li>✓ Inadequate training of employees or contractors on risks associated with tourism development activities</li> <li>✓ Safety hazards may occur if equipment is not handled in the correct manner</li> <li>✓ Employees not receiving the correct Personal Protective Equipment (PPE) for their specific responsibilities.</li> <li>✓ Employees not adhering to safety rules implemented at the site</li> </ul>				
<b>Impact</b>	<b>Objective</b>	<b>Mitigation Measures</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsibility</b>
<b>General Occupational Health and Safety of the employees (injuries)</b>	To ensure safe working conditions and adhere to the Health and Safety Regulations, Government Notice 156/1997 (GG 1617)	<p>Identify potential hazards and develop responses to eliminate sources of risk or minimize workers' exposure to hazards</p> <p>Provide adequate and appropriate personal protective equipment for all workers</p>	<p>Hazard risk report Safe work condition audit</p> <p>Personal protective equipment issue (Distribution register)</p>	Proponent
<b>Accidents and incidents</b>	To ensure safe working conditions	<p>Document and report occupational injuries, illness and fatalities, including near misses.</p> <p>Provide adequate access to first aid and medical assistance in cases of work related accidents or injuries</p>	<p>Accidents and incidents register (including near misses) First aid kit availability and adequacy audit report</p>	Proponent
<b>Physical Hazards to workers</b>	To ensure safe working conditions	Eliminate physical hazards to workers and mitigate any residual risks	Hazards risk report	Proponent

<b>Ablution Facilities</b>	To reduce health risks and environmental pollution and ensure healthy working environment with appropriate and user-friendly ablution facilities	Ensure adequate, hygienic (clean) and user-friendly ablution facilities for all staff. Mobile chemical toilets are recommended Ablution facilities must be located at least 100 m away from streams or freshwater systems and regularly serviced	Inspect ablution facilities regularly (daily) Availability of toilets, cleanliness and hygienic ablution facilities	Proponent
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## SECTION C: POLLUTION AND WASTE MANAGEMENT

Table 6-3: Mitigation measures pertaining to Waste Management

<b><u>Potential Sources of Impacts:</u></b>				
<ul style="list-style-type: none"> <li>✓ Disregard of the pollution impacts (often considered insignificant e.g. littering, oil spills etc.)</li> <li>✓ Poor management, storage and disposal of waste</li> </ul>				
<b>Impact</b>	<b>Objective</b>	<b>Mitigation Measures</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Solid Waste</b>	To prevent pollution and maintain a clean environment	All waste produced on site should be contained and disposed as per Municipal regulations  Ensure appropriate waste collection and removal from the site and dispose at appropriate municipal waste disposal sites	Scattered waste, Littering and any other unsightly waste at the site (eyesore)	Proponent
<b>Waste Water</b>	To avoid effluent discharge into the environment	Refer to regulations on effluent disposal  Be on the look-out and repair any leaking or broken sewer pipes (regardless of how small it may be perceived)	No leakage of sewer pipes	Site Manager or dedicated Plumber

## SECTION D: ENVIRONMENT

Table 6-4: Mitigation measures pertaining to Environmental impacts

<b>Potential Sources of impacts:</b>				
<ul style="list-style-type: none"> <li>✓ Disregard of environmental values, concerns and recommendations</li> <li>✓ Lack of awareness amongst workers and contractors of how their actions may impact on the environment</li> <li>✓ biodiversity loss due to the clearance of vegetation, excavations etc.</li> <li>✓ Unauthorized, over-utilization and wastage of water resources</li> </ul>				
<b>Impact Description</b>	<b>Objective</b>	<b>Mitigation Measures</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Landscape alteration (damage)</b>	Limit the number of access roads	Only create access routes as necessary (in line with the site layout plan) and instruct drivers to stick to demarcated roads Restrict vegetation clearing especially protected plant species	Instructions / Meeting Minutes, signed by drivers	Proponent
<b>Ecological disturbances (wetland deterioration)</b>	Where possible, minimize disturbance to prevent loss of wetland wellbeing and biological diversity	Re-align the proposed layout of infrastructure so that it avoids the wetland and wetland buffer, specifically the water reservoir Re-align the proposed layout of infrastructure northwards	Photographic records of site before and construction commencement  Regular review of photographic records	Site Manager
<b>Pollution of surface and groundwater resources</b>		Prevent, control and manage contaminate runoff from the and construction site	Adequate drainage system/channel in place	Proponent ECO



		Rubble, sand and waste material resulting from the and construction activities must be cleared up but not disposed in any stream or drainage channels as it will impede on the flow in these channels	ECO to verify implementation of the mitigation measures proposed in this EMP and compile the report	
<b>Poor waste management, including Nuisance caused by odours and unsightly appearance of waste onsite.</b>	To prevent pollution due to poor waste management	The management of waste must be in accordance with the waste disposal regulations (if available)	Regular site inspections Internal audits against this EMP must be conducted	Proponent

## SECTION E: SOCIO-ECONOMIC

Table 6-5: Mitigation measures pertaining to Socio Economic impacts

<b>Sources of impacts:</b>				
<ul style="list-style-type: none"> <li>✓ Unfair labour practices and unwillingness to recruit locals</li> <li>✓ Lack of awareness on HIV-AIDS</li> <li>✓ Drug and alcohol abuse</li> <li>✓ Lack of bridges to cross river streams during rainy season</li> </ul>				
<b>Impact Description</b>	<b>Objective</b>	<b>Mitigation Measures / Management Actions</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Employment opportunities for Locals</b>	Promote benefits to the local community Promote benefits to local communities	Recruit locals for unskilled labour For all other jobs it should be specified in the contractor's contract that all positions shall only be filled by non-locals if it can be demonstrated that the required capacity is not available locally	Employee structure and proportion of local employment	Proponent
<b>Alcohol and Drug use</b>	Prevent alcohol and drug use at the tourism development site	Ban and warn the employees against the use of alcohol and drug at the site  Provide awareness on the dangers and health impacts of alcohol and drug use	Drunk / Misbehaving employees  Monitor presence of alcohol at the site	Proponent

<b>Excessive working hours</b>	Adhere to the Labour Act No. 11 of 2007	Adhere to prescribed working hours as per the Namibian Labour laws and regulations. Provision for overtime or compensatory time off for long hours worked	Verification of working hours against the labour Act	Proponent
<b>HIV / AIDS</b>	Provide HIV / AIDS awareness to employees	Provide HIV / AIDS awareness at induction Avail Condoms (e.g. in toilets)	Availability of condoms at and construction site	Proponent

## SECTION F: CULTURAL HERITAGE

Table 6-6: Mitigation measures pertaining to Cultural Heritage impacts

<b>Sources of impacts:</b>				
✓ Disregard of Cultural Heritage and artefacts				
<b>Impact Description</b>	<b>Objective</b>	<b>Mitigation Measures/</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Heritage Resources / artefacts</b>	Reduce the impacts of and construction and associated earthworks on heritage resources / artefacts	Heritage remains or artefacts discovered on site must be reported to the National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461)	Sighting report/s of heritage resources / artefacts	Proponent
		No artefacts must be removed or be interfered with prior to authorisation from the Namibian National Heritage Council (NHC)  Recovery of heritage remains or artefacts discovered and removal thereof should be directed by the National Museum		

Table 6-7: Heritage Remains Chance Find Procedure

CHANCE FIND PROCEDURE FOR DISCOVERY OF UNEARTHED HERITAGE REMAINS		
<b>Responsible Heritage Resources Authority</b>	National Heritage Council of Namibia 52 Robert Mugabe Avenue, Windhoek, Private Bag 12043, Ausspannplatz, Windhoek. Tel +264 - 61 - 244 375 Email <a href="mailto:info@nhc-nam.org">info@nhc-nam.org</a> Web <a href="http://www.nhc-nam.org">http://www.nhc-nam.org</a>	
<b>Potential finds</b>	Human remains (e.g. bones), cultural and archaeological items (e.g. physical artefacts and intangible attributes of the Namibian society such as indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), and natural heritage items (e.g. fossils, subfossil wood).	
<b>Protocol</b>	1. Once alerted to occurrence(s): alert site supervisor, stop work in area immediately ( <i>N.B.</i> safety first!), safeguard site with security tape / fence / sand bags if necessary.	
	2. Contact the Group Manager	
	3. Record key data while finds are still <i>in situ</i> : <ul style="list-style-type: none"> <li>• Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo</li> <li>• Context – describe position of finds within stratigraphy (rock layering), depth below surface</li> <li>• Photograph find(s) <i>in situ</i> with scale, from different angles, including images showing context (e.g. rock layering)</li> <li>• Send finds to the Group Manager if they cannot visit the site.</li> </ul>	
	4. Group Manager to identify if a suitably qualified specialist such as an archaeologist needs to visit the site. Group Manager to liaise with National Heritage Council of Namibia to determine next steps and obtain the correct approval (e.g. a permit).	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">           4. If feasible to leave <i>in situ</i>: <ul style="list-style-type: none"> <li>• Ensure site remains safeguarded until clearance is given by the Authority for work to resume</li> </ul> </td> <td style="width: 50%; vertical-align: top;">           4. If <i>not</i> feasible to leave <i>in situ</i> (emergency procedure only): <ul style="list-style-type: none"> <li>• <i>Carefully</i> remove finds, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)</li> <li>• Photograph finds against a plain, level background, with scale</li> <li>• Carefully wrap finds in several layers of newspaper / tissue paper / plastic bags</li> <li>• Safeguard finds together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist</li> </ul>           Liaise with the National Heritage Council of Namibia, move finds to National Museum or other location as advised.         </td> </tr> </table>	4. If feasible to leave <i>in situ</i> : <ul style="list-style-type: none"> <li>• Ensure site remains safeguarded until clearance is given by the Authority for work to resume</li> </ul>
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5. Implement any further mitigation measures proposed by the National Heritage Council of Namibia		

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## **7 REHABILITATION**

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### **7.1 Importance of Rehabilitation**

Socio-economic development is very important for our livelihood and provides services, income and employment opportunities, and hence activities such as tourism developments are vital and necessary for development.

However, such developmental activities should be conducted in a thoughtful and forward-looking manner. In other words, developmental activities, such as tourism development should consider the future land use after such activity has come to an end. Therefore, to ensure that the land remains valuable for other land uses in the future, rehabilitation should be part and parcel of such developmental activity right from the beginning and throughout the project lifespan.

### **7.2 What is Rehabilitation?**

Rehabilitation is the process of repairing and taking all the necessary actions to limit, minimize and mitigate the damage caused by the developmental activity, in-order to make the land suitable for other uses or to simply beautify the affected area (so that it does not become an eyesore). Rehabilitation can also be referred to as the measures taken to repair damaged environments (example refilling of excavated pits with the overburden, re-vegetating, removal of unwanted infrastructure, cleaning up pollution etc.).

### **7.3 Designing a Rehabilitation Plan**

A rehabilitation plan refers to a set of steps or measures to be taken in-order to ensure that negative impacts associated with the development at hand are mitigated. This however requires prior planning and integration of rehabilitation activities throughout the project lifespan. Meaning, rehabilitation measures should be taken right from the beginning of the project.

The environmental characteristics of an area where a project is located plays a vital role in designing a rehabilitation plan.

### **7.4 Conclusion**

Construction activities should be undertaken in a responsible and environmental friendly manner. Although balancing the demands of development and nature is not always clear cut, the importance of minimal disturbance to the natural environment is of utmost importance in order to safeguard the environment.

## SECTION G: REHABILITATION

**Table 7-1: Potential impacts and Mitigation measures pertaining to Rehabilitation**

<b>Sources of impacts:</b>				
<ul style="list-style-type: none"> <li>✓ Landscape alteration due to lack of rehabilitation</li> <li>✓ Biodiversity loss due to lack / poor rehabilitation</li> <li>✓ Loss of topsoil due to lack of restoration measures</li> <li>✓ Steep edges of and construction pits may become a death trap for animals</li> <li>✓ Waste (Left over of broken equipment, material offcuts etc.)</li> </ul>				
<b>Impact Description</b>	<b>Objective</b>	<b>Mitigation Measures/</b>	<b>Indicators for Monitoring and Compliance</b>	<b>Responsible Party</b>
<b>Habitat alteration and permanent environmental scars of the and construction operations</b>	To minimize habitat alteration and environmental scars	Limit environmental damages and re-use e.g. the overburden may be collected and piled and used for re-filling of pits  Plant indigenous trees to fill the gaps for trees removed during construction	Re-filling of and construction pits with the overburden  Indigenous Trees planted	Proponent
	Landscaping	Landscaping – refers to re-shaping man-made landforms to blend in with the environment and in order to limit the damage to the natural landscape	Landscaping efforts and modification towards natural state	Proponent
<b>Waste discarded all over the place</b>	Clean-up	Remove any foreign objects (including infrastructure), that is not needed at site upon project completion	Clean-up after project closure	Proponent

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## 8. CONCLUSION

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The EMP recommends measures to be implemented by the proponent in order to comply with the requirements of Social Security when establishing and operating a chicken enterprise. The chicken enterprise is to be established in an environmental friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations.

In-addition, the aim of the EMP is to ensure legal compliance to prevent environmental fatal flaws as mitigation for any impacts arising from the and construction process at the end of the and construction phase.

Non-compliance against the EMP is punishable and specific responsibilities has been assigned to role players in-order to ensure that the EMP is implemented. The key role-players as defined under section 4 should:

- **Read** the EMP (particularly the Proponent) and ensure that they are fully conversant with provisions of the EMP,
- If need be, **Ask for clarity** from the Environmental Assessment Practitioner (EAP), Environmental Compliance Officer (ECO) or relevant authority,
- Ensure implementation of the recommended mitigation measures, and
- Communicate defaults / challenges to the ECO as soon as possible.

It is recommended that an Environmental Control Officer (ECO) should monitor (conduct periodic and unannounced EMP audits) throughout the development phase, in-order to ensure compliance in-accordance with the mitigation measures prescribed in the EMP.