ENVIRONMENTAL SCOPING ASSESSMENT (ESA) STUDY

Application for an Environmental Clearance Certificate for the Environmental Scoping Assessment (ESA) for the proposed Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.

Project details

- Nuverah Prime Investments CC proposes to establish an abattoir which, will be a modern, state-of-the-art micro-slaughterhouse facility designed to process up to 8 cattle per day, 5 goats per day, 5 sheep per day and 10 pigs per week. The facility will include the following components:
- Livestock reception area
- Slaughtering and dressing areas
- Meat processing, cold storage, and packaging areas
- Waste treatment and disposal facilities
- Administrative and support facilities

Proponent

Nuverah Prime Investment CC
CC/2018/07439
Po Box 2147, Otjiwarongo, Namibia
Hospitaal Street,Orwetoveni, Otjiwarongo
Office: +264 816511740
Email: sonnegroet1@gmail.com

Environmental Assessment Practitioner

Mr. Theo Uvanga
Quintessential Trading and Consultancy CC
PO Box 2112 Swakopmund
Contact: +264 814815077
Email: theo.uvanga@gmail.com

QTC
From concept to creation

Document Control

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Report Title	Environmental Scoping Assessment (ESA) for the proposed Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.
Client	Nuverah Prime Investment CC CC/2018/07439 Po Box 2147, Otjiwarongo, Namibia Hospitaal Street, Orwetoveni, Otjiwarongo Office: +264 816511740 Email: sonnegroet1@gmail.com
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This report is to be referred to in bibliographies as:	Environmental Scoping Assessment (ESA) for the proposed Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.
	For review by the Ministry of Environment, Forestry and Tourism: Office of the Environmental Commissioner, interested and affected parties and stakeholders.
Report Status	Final
Date	May 2023
Signed	

Executive Summary

Nuverah Prime Investments CC (the proponent) proposes to establish a Class C abattoir on Portion 1 of Otjiwarongo Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.

The proposed abattoir will be a modern, state-of-the-art micro-slaughterhouse facility designed to process up to 8 cattle per day, 5 goats per day, 5 sheep per day and 10 pigs per week on a six (6) day work week schedule for local and regional markets and meet the national and international standards.

The overall objective of the project is to establish a modern abattoir to process meat products for local and regional markets. Directly linked to the overall objective are specific objectives that include: to promote sustainable livestock production; to process competitively local branded high quality and disease-free meat and meat products for local consumption and external markets; to promote value addition of livestock by-products specifically bones, blood, hides and skins, and to enhance capacity of key value chain actors in the livestock sub-sector.

The proposed project site is located within the Otjozondjupa region, approximately 240 kilometres north of Windhoek, the capital City of Namibia, belongs to the Namibia Industrial Development Agency (NIDA) and is designated and registered as an Industrial Site as it used to house light and heavy industrial works in the past.

The property lies at Latitude -20.432645° and Longitude 16.671875°. It is ±3.79 km to the northeast of Otjiwarongo on the B1 road and can be accessed 10 metres turning right off the B1 before the Otjiwarongo-Otavi Roadblock and Otjiwarongo and Cheetah Whale Rock Cement turnoff via the D2430 road, with a separate gravel road leading to the property.

Figure 1 and Figure 2). The total surface area for the abattoir and ancillary facilities land of Portion 1 is 2 hectares.

The site is un-used and overgrown with natural vegetation but the remainder of Portion 15 (Ptn 2,3,8,9,10,10 & 12) was used as a cement plant in the past but, the buildings have been demolished and the plants removed leaving those employees destitute.

As per requirements of the Environmental Management Act (EMA) No. 7 of 2007, and its 2012 Environmental Impact Assessment (EIA) Regulations, an ESA application need to be undertaken and submitted to the Department of Environmental Affairs (DEA) of the Ministry of Environment, Forestry and Tourism (MEFT), respectively for approval and issuing of an environmental clearance certificate (ECC).

This process is also done to ensure that the proposed activity complies with the requirements of this Act whereby listed activities are certified prior to commencement of any planned works in the environment.

An abattoir falls under Commercial meat and hides processing facilities and hence Category A Project Activities that cannot be undertaken without Environmental Clearance Certificate.

The processing process for this project may result in environmental aspects such as waste management, treatment, handling, and disposal activities that triggers the need for an assessment and, the collation of an Environmental management Plan (EMP) that documents the mitigation measures that, should be implemented as identified through a screening process. The proposed activities trigger the need for an Environmental and Social Impact Assessment (ESIA) process.

Subsequently, Nuverah Prime Investments CC appointed Quintessential Trading and Consultancy CC (hereinafter referred to as the Environmental Assessment Practitioner (EAP) or the Environmental Consultant) to undertake the required ESIA process.

An ESIA was conducted to identify and assess the potential environmental and social impacts of the proposed abattoir. The ESIA evaluated the project's potential impacts on the following key areas:

- Air quality
- Water resources
- Soil and land use
- Biodiversity and ecosystems
- Noise pollution
- Waste management and disposal
- Cultural heritage and social impacts

Our tasks include public participation, compilation of all the required documents (including ESIA report and draft Environmental Management Plan (EMP)) and submit the relevant documents to the competent authority and ECC application to the DEA on their behalf.

The ESIA took into consideration all environmental and social impacts of the proposed abattoir project works, identify the main environmental and social aspects to optimize the project from the environmental and social point of views, and avoid, minimize, reduce or off-set negative impacts while enhancing positive impacts.

We applied an approach and methodology in undertaking the study that covered all phases of the project: pre-construction, construction, and operation. In addition to this phased approach, we examined the possible maintenance plans and decommissioning of the project and came up with cost effective environmental management plans for the same.

We undertook environmental screening and scoping to avoid unnecessary data and applied various approaches in collecting data and information for assessing the impacts of the proposed project. The data collection was carried out through public consultative

processes, desktop studies and literature review and field observations and evaluated health and safety of employees, climate, water, air quality, biodiversity, geology, socio economic impact, cultural heritage, groundwater, socio-economic environment, and traffic impacts. Legal and regulation guidelines that apply and are relevant to the establishment and operations of the proposed abattoir were reviewed, and these covered both national and international aspects.

We commenced with the process of registering the project on the Environmental Clearance Certificate (ECC) System of the Ministry of Environment, Forestry and Tourism (MEFT) on the 30 March 2023. It was confirmed that only a Scoping Report and an EMP was required for the process of application for an ECC.

To commence with the Public Participation of the Stakeholder Engagement Process, four adverts were placed in two prominent daily newspapers for three consecutive weeks on the following dates.

- The Villager – Wednesday 05 April 2023, Page 3
- New Era Advert -Wednesday 12 April 2023, Page 3
- The Villager – Wednesday 12 April 2023, Page 12
- New Era Advert – Wednesday 19 April 2023, Page 3

The same advert was put up at the Otjiwarongo Municipality offices notice boards in town and at Orwetoveni as well as the Woermann Brock Shopping Mall notice boards in Orwetoveni, the Orwetoveni Community Hall notice boards from 5 April – 30 May 2023.

A comprehensive Background Information Document (BID) document was prepared for Interested and Affected Parties (I&AP's) and we, asked I&APs to register as such and request BID documents from Wednesday 05 April 2023.

We also communicated that we needed inputs and concerns communicated to us before the Friday 12 May 2023 on the BID Document.

The Stakeholders Meeting was held on Saturday 22 April 2023 at 09h00 AM at the Orwetoveni Community Town Hall in Otjiwarongo and sixteen (16) members of the public picthed up and were engaged and provided with the BID document. One person from the EIA Tracking and Monitoring in Namibia at the Namibian Environment and Wildlife Society requested to be registered as an Interested and Affected Party (I&AP) and requested a BID document was emailled a copy on the same day of 8 May 2023.

There were no comments received from the public during this period up to 30 May 2023.

The following were regarded as main impacts related to the proposed development:

The construction and operation of an abattoir and its ancillary infrastructure is usually associated with some impacts, both positive and negative. The proposed activity will have some potential impacts on the immediate environment, next door neighbours and employees and these are listed below.

Negative:

The following potential negative impacts may be anticipated:

- Surface and ground water pollution: improper handling of wastewater from processing facility may lead to surrounding surface water and ground water pollution during operations. Surface water quality could be affected by a number of factors during abattoir operations. Livestock will deposit significant amounts of dung and urine during unloading and storage, with the risk of subsequent wash-off into storm drains or local watercourses.
- General environmental pollution through mishandling of site waste leads to environmental pollution during construction and operation.
- Minimal loss of biodiversity through the removal of vegetation that may be found within the site footprints to make way from infrastructure and ancillary facilities during construction.
- Noise (nuisance): noise generated by machinery and vehicles, noise from animals in holding pens may lead to nuisance to employees and immediate community during construction and to a lesser degree during operation.
- Air pollution from fugitive and dust, emissions from construction and operational activities and from the use of the dirt road for delivery of livestock to site.
- Vehicular traffic: potential increase in local traffic due to construction activities on site and subsequent operational activities.
- Health and safety: improper handling of site materials and equipment, animal borne diseases may cause health and safety risks and rotating and moving equipment during operations.
- Archaeological or cultural heritage impact through uncovering of unknown objects on site (when doing earthworks).

Positive:

- Socio-economic development through job (employment) creation in the area during construction and operation.
- Organic, sustainable, and affordable supply of meat to the local community
- Support to local livestock producers.
- Local empowerment through skills development and skills transfers through on-the-job training during operations.
- Local empowerment through skills development during construction and operational phase.
- Associated spinoff industries in Otjiwarongo leading to economic empowerment and growth during operation.

We are confident that the above-mentioned impacts can adequately be addressed by implementing the mitigation measures provided in the Environmental Management Plan (EMP) **in Chapter 12.**

Therefore we recommend that the proposed development, as described in **Chapter 7** and the following associated activities receive an Environmental Clearance Certificate (ECC), provided that the EMP is implemented and conditions set by the MEFT are complied with by the proponent.

Table of Contents

Abbreviations

Abbreviation	Meaning
ASP	Activated Sludge Process
CEO	Chief Executive Officer
CENORED	Central North Regional Electricity Distributor
CO2	Carbon Dioxide
CM	Control Measures
DMS	Document Management System
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No 7 of 2007
ESA	Environmental Scoping Assessment
EMP	Environmental Management Plan
ETP	Effluent Treatment Plan
GHG	Greenhouse Gas Emissions
GN	Government Notice
HAS	Hygiene Assessment System
HCP	Hygiene Control Programme
HMP	Hygiene Management Plan
HPPII	Harambee Prosperity Plan II 2021-2025
HSE	Health Safety and Environmental
HSEO	Health Safety and Environmental Officer
HPP	The Harambee Prosperity Plan II (2021-2025)
I&AP	Interested and Affected Parties
ISO	International Standards Organisation
I&AP's	Interested and Affected Parties
LA	Labour Act 11 of 2007
LWK	Live Animal Weight in Kilograms
MAWF	Ministry of Agriculture, Water & Forestry
MEFT	Ministry of Environment, Forestry and Tourism
MF	Microfiltration
MSDS	Material Safety Data Sheets
NDP5	Fifth National Development Plan
NIDA	Namibia Industrial Development Agency
NIP	Not In Pig
NOx	Nitrogen Oxide
OC	Percentage Organic Carbon
OM	Organic Matter
PCT	Physico-chemical Treatment
PPE	Personal Protective Equipment
RO	Reverse Osmosis
SANS	South African National Standard
SOP	Standard Operating Procedures
ST	Septic Tanks

SWW	Slaughterhouse Wastewater
SQM	Square metres
TDS	Total Dissolved Solids
TN	Total Nitrate
TP	Total Phosphate
TSS	Total Suspended Solids
UF	Ultrafiltration
UV	Ultraviolet
WRMA	Water Resources Management Act 11 of 2013

Definitions of Terms

Term	Definition
Abattoir	A building which is licensed for the slaughter of animals and initial preparation of carcases for human consumption, also commonly called a slaughterhouse, processing plant or meat works. Such buildings vary in size and sophistication depending on the species to be handled, the degree of preparation of the carcase before sale, and local government ordinance. The premises would normally contain the following facilities: accommodation for animals awaiting slaughter (called lairage or holding pens), a slaughter area (termed a kill floor or slaughter hall), an area for emergency slaughter, a refrigerated area, detained meat area with adequate space for holding suspect meat (see condemnation), offal, gut and tripe area, hide and skin area, cutting or boning room, despatch area, amenities for personnel, and a veterinary officers room.
Animal welfare	Means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.
Biosecurity	Means a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections, or infestations to, from and within an animal population.
Boning	Process of removing meat from the bones of a carcase, the meat of which is then termed "boned-out". This process is conventionally carried out after the carcase has set (completion of rigor mortis) and chilled. Boning can also be carried out prior to rigor and is then termed hot boning.
By-products	Non-carcase parts of the animal, both edible (e.g., liver) and inedible (e.g. gut contents)

Carcase (carcass)	The body of an animal killed for meat. The term usually applies following the removal of various parts from the dead body (dressing).
Casualty animal (casualty slaughter)	An animal slaughtered prematurely for meat because of an accident, injury or wound. This is also known as emergency slaughter. Emergency slaughter of animals with unspecified illness can be a source of risk to human health, therefore veterinary inspections of the animal prior to slaughter and of the carcase are made before deeming such meat fit for human consumption.
Cattle	Bovine animals, specifically 'beef cattle' or 'dairy cattle'
Chilling	The reduction in temperature of a carcase. It is used to restrict the growth of pathogens and spoilage micro-organisms in meat (see microbiology) and hence reduce deterioration and improve food safety. The chilling process generally involves placing carcases in conditions of 0 to 5 °C within one hour of slaughter (post-mortem). Conventional chilling typically involves holding the carcases at an air temperature of 0 to 5 °C until the muscle temperature is below 7 °C throughout. Rapid chilling involves subjecting the carcase to sub-zero temperatures (perhaps as low as -30 °C) and high air velocity for a short period of time (typically 30 to 90 minutes). Rapid chilling is carried out to reduce evaporative weight loss (see water holding capacity, drip loss) from the carcase and can also improve some aspects of carcase quality (see PSE). There may also be benefits in saving energy and chiller space requirements. However, rapid chilling can also lead to cold shortening, and unless chilling follows electrical stimulation or pelvic suspension a reduction in meat tenderness may occur. The rate of muscle cooling within the carcase post-mortem is not uniform, even within the same muscle. The centre of a muscle can takes considerably longer to cool than the outside edge of a muscle. The position of the muscle within the body will also determine how quickly and to what degree chilling will take place. The rate of cooling of the carcase is markedly affected by the size and fatness of the carcase, and the chilling process (particularly the temperature and rate of air movement past the carcase). A high subcutaneous fat (backfat) cover on the carcase can act as an insulator, reducing cooling rate and helping to prevent cold shortening.
Corrective Action	Action to eliminate cause of a detected nonconformity
Competent Authority	Is any person or organization that has the legally delegated or invested authority, capacity, or power to perform a designated function. The competent authority administering over the EIA process and deciding on whether an ECC would be issued is the Ministry of Environment, Forestry and Tourism' Department of Environmental Affairs. In this regard, application for an ECC and all reports and documentation associated with the EIA process will be submitted to the DEA.
Cull	Breeding animals of any species slaughtered at the end of their productive lives. The term most commonly refers to dairy cattle or

	suckler cows, sows, and ewes. The meat from these animals tends to be tough (see tenderness) with a large amount of insoluble connective tissue present. The meat from cull animals possesses different, often stronger flavour characteristics from younger animals.
CO_2 stunning (carbon dioxide anaesthesia)	A method used to render an animal unconscious for slaughter. CO_2 gas (at least 80% CO_2) can be an effective alternative to electrical stunning (see stunning). CO_2 stunning can be a useful method of reducing or preventing blood splash. Sometimes referred to as controlled atmosphere stunning (CAS)
Exsanguination	The technique used to drain the blood from the carcase of an animal at slaughter. Also known as sticking or bleeding. Following stunning, the animal is bled by severing the major blood vessels. Sticking can be carried out at the neck or the chest (often referred to as a thoracic stick). Sticking must ensure that at least one of the carotid arteries (or the vessels from which they arise) is severed. If electrical stunning is used prior to exsanguination, it is important to minimise the time between the two operations to reduce the occurrence of blood splash. Some methods of ritual slaughter practised within Australia use exsanguination only, without stunning, for certain animal species.
Duration	Refers to the length of time over which an environmental impact may occur;
Environment	Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, and their interrelation
Environmental Audit	An assessment of the extent to which an organization is observing practices which minimize harm to the environment
Aspect	Element of an organization activities or products or services that can interact with the environment.
Environmental impact	Any change to the environment, weather adverse or beneficial, wholly, or partially resulting from an organization aspect
Frequency	The number of times during the project or specific project phase or activity that an environmental effect might occur (e.g., one time or multiple times) in a specified time
Halal	Permissible or lawful to eat in accordance with Islamic law
Haram	Not permissible or forbidden to eat in accordance with Islamic law
Hazard	Source, situation, or act with a potential for harm in terms of human injury or ill health, or combination of these
Hazard identification	The process of recognizing a hazard in existence and defining its characteristics
Incident	Work-related events in which an injury or ill health or fatality occurred. Or could have occurred
Interested Parties	Person or group, inside or outside the workplace, concerned with or affected by the Integrated management system of an organization
Impact	Any consequence caused by a proposed activity on the environment, including effects on human health and safety, fauna, flora, soil, air,

	water, climate, landscape, and historical monuments, or other physical structures, or the interaction among those factors. It also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors.
NIP (Not In Pig)	A condition of sows where insemination appears to have gone correctly and the sow is thought to be pregnant, but towards the end of the pregnancy (e.g., 15 weeks) shows no actual sign of pregnancy and does not give birth to any piglets. These sows are considered a waste of resources and are sent to slaughter.
Non conformance	Non-fulfilment of a requirement as per IMS standards, Applicable Rules & Regulations & Client requirements
Ill health	Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation
Risk	Combination of the likelihood of an occurrence of a hazardous event or exposures and the severity of injury or ill health that can be caused by the event or exposures
Lairage	Holding area for animals at an abattoir
Risk Assessment	The process of evaluating the risks arising from a hazard, considering the adequacy of any existing controls, and deciding whether the risks are acceptable
Scalding tank	A vat or tank of water at a temperature of about 60°C, in which pigs are plunged to soften their skin and remove bristles/hairs.
Slaughterhouse	See abattoir
Occupational Health and Safety	The condition and factors that affect or could affect the health and safety of employees or other workers (including temporary workers and contractor personnel), visitors or any person in the workplace
Preventative Action	The action to eliminate the cause of a potential nonconformity or other undesirable potential situation
Project	The features and activities that are a necessary part of the Project Proponent's development, including all associated facilities without which the Project cannot proceed. The Project is also the collection of features and activities for which authorization is being sought.
Project Site	The (future) primary operational area for Project activities.
Project Footprint	The area that may reasonably be expected to be physically touched by Project activities, across all phases. The Project Footprint includes land used on a temporary basis such as construction laydown areas or construction haul roads, as well as disturbed areas in transport corridors, both public and private.

1. Introduction

Namibia's Vision 2030, Fifth National Development Plan (NDP5) and Harambee Prosperity Plan II 2021-2025 (HPPII) all recognize a need for and place significant value on economic growth and employment creation. The proposed facility will contribute to these priorities at a local and regional level, in terms of sustainable and organic meat supply that is environmentally friendly and benefits local communities.

Livestock production and marketing is a major economic activity in many developed and developing countries. A large proportion of the poor globally keep livestock, and estimates indicate that to some extent, almost one billion of the world's extremely poor people depend on livestock for their livelihoods.

Otjiwarongo and the Otjozondjupa Region falls in an ecological region and biophysical environment categorized as semi-arid savannah, with scattered trees and grassland vegetation, and is renowned for its livestock production and marketing. However, the pastoral and commercial production systems in the region is facing challenges by emerging socio-economic development trends, climate change and land use patterns.

Furthermore, the region lacks multiplier infrastructures such as abattoirs to enhance economic returns for a sector which is the backbone for the county's economy. The need to for an investment in a modern and state of the art abattoir has become necessary. The primary objective of the proposed abattoir is to provide a reliable and sustainable source of high-quality beef, goat, sheep, and pork products to local market at affordable process given the increasing cost of living.

As per requirements of the Environmental Management Act (EMA) No. 7 of 2007, and its 2012 Environmental Impact Assessment (EIA) Regulations, an Environmental Scoping Assessment (ESA) application needs to be undertaken and submitted to the Department of Environmental Affairs of the Ministry of Environment, Forestry and Tourism (MEFT), respectively for approval and issuing of an Environmental Clearance Certificate (ECC).

The intent is to conduct an ESIA is ultimately to aid in obtaining permissions and authorisations for the.

- Construction of infrastructure (holding pens, processing plant, ablution facilities, administrative buildings, staff canteen) and waste treatment, handling, and disposal facilities to operate an abattoir on Portion 1 of Portion 15 of the NIDA Industrial Park located in Otjiwarongo, Otjozondjupa, Namibia.

2. Terms of Reference

Nuverah Prime Investments CC appointed Quintessential Trading and Consultancy CC in early March 2023 to undertake all the statutory procedures to apply for an Environmental Clearance Certificate (ECC). This is for commissioning an Environmental and Social Impact

Assessment (ESIA) study and obtain an Environmental Clearance Certificate (ECC) to construct and operate an abattoir in Otjiwarongo, Otjozondjupa Region, Namibia.

3. Study Approach and Methodology

This Environmental Scoping Assessment (ESA) process was carried out in accordance with provisions for EA, as prescribed by the Environmental Impact Assessment Regulations (GN. No. 30 of 2012), provided for by Section 56 of the Environmental Management Act (No. 7 of 2007).

The Terms of Reference and the relevant and applicable legislation guided the study's approach and methods.

3.1. Registration of Application for Environmental Clearance Certificate

The first step followed as part of this EA process was to identify the listed activities, which the proposed project entails, as stipulated in the 'List of Activities that may not be undertaken without an Environmental Clearance Certificate' (GN. No. 29 of 2012) and register the mentioned with the Office of the Environmental Commissioner.

It must be noted that, the NIDA Industrial Park is designated and registered as an Industrial Site as it used to house light and heavy industrial works in the past.

Three listed activities have been identified for which an ECC is required and is listed below.

- An abattoir falls under Commercial meat and hides processing facilities and hence Category A Project Activities that cannot be undertaken without Environmental Clearance Certificate.
- Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, 1976.
- The construction of facilities for waste sites, treatment of waste and disposal of waste.

The processing process for this project may result in environmental aspects such as emissions, waste management, treatment, handling, and disposal activities that triggers the need for an environmental assessment and, the collation of an Environmental management Plan (EMP) that documents the mitigation measures that, should be implemented as identified through a screening process.

We commenced with the process of registering the project on the Environmental Clearance Certificate (ECC) System of the Ministry of Environment, Forestry and Tourism (MEFT) on the 30 March 2023. It was confirmed that only a Scoping Report and an EMP was required for the process of application for an ECC.

The Competent Authority, for this development was identified to be Department of Environmental Affairs of the Ministry of Environment, Forestry and Tourism (MEFT).

4. Scoping Stage Aims

The next step followed as part of this EA process was the scoping stage. The identification of impacts and their significance as well as public consultation (as prescribed by Regulation 21 to 24 of the EIA Regulations (GN. No. 30 of 2012) are important elements of the scoping stage.

Hence, during the scoping stage, issues/impacts that are likely to be significant are identified and those that are less significant are evaluated and if warranted, eliminated.

4.1.Scoping Stage Method

The method followed during the scoping stage was as per requirements set by the Environmental Impact Assessment Regulations (GN. No. 30 of 2012), which included –

- Giving notice to all potential interested and affected parties (I&APs) of the application (ECC application) in newspaper adverts.
- Preparing a scoping report by subjecting the proposed application to scoping by -
    - Assessing the potential effects of the proposed listed activity on the environment.
    - Assessing whether and to what extent the potential effects identified can be mitigated and whether there are any significant issues and effects that require further investigation.
    - Identifying feasible alternatives related to the development.
    - Setting the Terms of Reference for further investigations (if required).
    - Informing I&APs of the way forward in the EA process.
    - Ensuring informed, transparent, and accountable decision-making by the relevant authorities; and
- Informing all registered I&APs of the decision of the office of the Environmental Commissioner.

4.2. Study Assumptions and Limitations

In undertaking the EA and compiling of the scoping report, the following assumptions and limitations apply:

- It is assumed that all the information provided by the proponent and authorities consulted is accurate and that those have disclosed all necessary information available.
- No alternative site for assessment is available.
- It is assumed that all permit or licence requirements, other than the ECC, associated with the development will be addressed as separate investigations and are not included in this EA process.

- It is assumed that there will be no significant changes to the development or the affected environment between the compilation of this report and implementation of the development that could substantially influence findings and recommendations with respect to mitigation and management, etc.
- The EA process involved the assessment of impacts on the current conservation value of affected land and not on either the historic or potential future conservation value.
- The assessment is based on the prevailing environmental (social and biophysical) and legislative context at the time of writing.

5. Legislation relevant to the proposed development

The table below provides a summary of the National legislative framework considered to be relevant to this development and the environmental assessment process to which the proponent must comply and use as a guidance in the operation of the proposed development.

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Abattoir Industry Act NO 54 of 1976 section 8: General Regulations RSA Government Notice R.93 of 1977	Meat Board of Namibia	• Health and safety • Biodiversity • Communities and • Socio-economic	To provide for control over all matters in connection with the siting, erection, use, alteration, closing, management and conduct of, and the performance of services at, abattoirs; the coordination and rationalization of all such matters; the giving of advice on such matters to the Minister and certain other persons and for that purpose to establish a commission; the establishment of a corporation with the power to erect, hire or acquire abattoirs in the general interest, and to manage and conduct such abattoirs on a utility basis and in an orderly, economical and effective manner; and to provide for incidental matters.	All abattoir operators must register with the Meat Board of Namibia, who is the mandated regulator of controlled products (livestock, meat, and meat products). Nuverah Prime Investments CC is obliged to enforce compliance of the Act and its Regulations in setting up the abattoir.
Meat Industry Act (No 12 of 1981)	Meat Board of Namibia	• Health and safety • Biodiversity • Communities and • Socio-economic	To establish a South-West African Meat Board and to define its objects, powers, duties, and functions, and to provide for control over the grading, sale, importation and export of and the imposition of levies in respect of livestock, meat or meat products, and to provide for other incidental matters.	According to the Meat Industry Act (No 12 of 1981), section 10 (n), any producer of or speculator in any controlled product (livestock, meat, or meat products) must be registered with the Meat Board of Namibia and must comply with the conditions of

				registration to lawfully sell any controlled product (livestock, meat, or meat products).
Atmospheric Pollution Prevention Ordinance 11 of 1976	Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs	• Air quality and GHG Emissions • Health and safety • Biodiversity • Communities and • Socio-economic	Section 5 provides that no person may carry on a scheduled process on any premises in a controlled area without a current registration certificate. In addition, no person may erect or cause to be erected any building or plant, which is intended to be used for the purpose of carrying on any scheduled process, unless he is the holder of a provisional registration certificate authorising such building or plant.	Fugitive emissions in the form of dust liberation from civil works will require comprehensive management and monitoring programmes to be in place.
Constitution of the Republic of Namibia 1 of 1990	Government of the Republic of Namibia	• Air quality and GHG emissions • Non-mineral waste • Water use and quality control • Hazardous materials and contamination • Noise and vibration • Visual amenities • Land use stewardship • Biodiversity • Heritage and archaeology	In Namibia, environmental protection is enshrined in the Constitution and Sustainable development is a cornerstone of Vision 2030. Since 1990, the Government of Namibia has adopted a few policies that promote sustainable development. Most of these have their roots in the following two articles of the Namibian Constitution: Article 91(c), which defines the functions of the Ombudsman to include:… the duty to investigate complaints concerning the	The works needs to fully adhere to the requirements of environmental and ecosystem protection to ensure that the area of influence is maintained for the benefit of current and future generations.

		• Disaster management and risk • Communities and socio-economic • Occupational Health and safety	over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia … and Article 95(l), which commits the state to actively promote and maintain the welfare of the people by adopting policies aimed at the: … maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future … The State is thus committed to actively promoting and maintaining the Environmental welfare of Namibians by formulating and institutionalising policies that can realise the above-mentioned sustainable development objectives. The integration of the principles of sustainable development into national policies in Namibia is supported by various key international, regional and national legal instruments and policy documents.	

Environmental Management Act 7 of 2007 (and accompanying regulations Government Notice (GN) 29 and 30, Government Gazette (GG) 4878, 6/2/2012;	Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs	• Air quality and GHG emissions • Non-mineral waste • Water use and quality control • Hazardous materials and contamination • Noise and vibration • Visual amenities • Land use stewardship • Biodiversity • Heritage and archaeology • Disaster management and risk • Communities and socio-economic • Occupational Health and safety	Adequate public participation is required as a first step of the environmental assessment process for interested and affected parties to give their input and grievances (Section 2(b-c). Protection of Namibia's cultural and natural heritage, including its biological diversity for the benefit of present and future generations (Section 2(d). This section requires that projects with significant environmental impacts are subjected to a thorough environmental assessment process (Section 27).	The EIA process described in the act must be followed such as conducting public participation. An Environmental Clearance certificate is required for the construction and operational activities of the abattoir and its support services.
Animal Health Act, No 1 of 2011 and its Regulations of 2018.	Ministry of Agriculture, Water & Forestry (MAWF)	• Disaster management and risk • Communities and socio-economic • Occupational Health and safety • Hazardous materials and contamination	The Act was implemented to provide for the prevention, detection, and control of animal disease; to provide for the maintenance and improvement of animal health; and to provide for incidental matters.	This Act and its Regulations is applicable to entire process flow of the abattoir and must be adhered to.

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Regional Councils Act No 22 of 1992	Ministry of Urban and Rural Development	• Land use stewardship • Communities and socio-economic	Regional Councils are responsible for the planning and coordination of regional policies and development	They are tasked with the planning, implementation, and evaluation of development in their regions and thus the Otjozondjupa Regional Council and elected Councillors are Interested and Affected Parties (I&AP's) to these developments
Labour Act 11 of 2007 No. 156 Labour Act, 1992: Regulations relating to the health and safety Of Employees at work	Ministry of Labour, Industrial Relations, and Employment Creation: Office of the Labour Commissioner	• Health and safety • Hazardous materials and contamination • Noise and vibration • Communities and socio-economic	The regulations relating to the Health and Safety of Employees at Work contain extremely comprehensive provisions on a wide range of health and safety issues in the workplace of which the following are of relevance to construction activities. CHAPTER 1 governs the RIGHTS AND DUTIES OF EMPLOYERS • CHAPTER 3 provides for WELFARE AND FACILITIES AT WORK-PLACES. Regulation 30 • CHAPTER 4 contains Comprehensive provisions on the SAFETY OF MACHINERY. • CHAPTER 6 PHYSICAL HAZARDS AND GENERAL PROVISIONS	Nuverah Prime Investments CC is obliged to enforce compliance on contractors and itself to implement stringent health and safety and PPE policies.

			• CHAPTER 7 MEDICAL EXAMINATIONS AND EMERGENCY ARRANGEMENTS • CHAPTER 8 CONSTRUCTION SAFETY	
South African National Standard (SANS) –Code of Practice, SANS 10103:2008, The measurement and rating of environmental noise with respect to annoyance and to speech communication, and as required by the regulations of the South African Department of Environmental Affairs and Tourism (DEAT), No 154 Noise Control Regulations in Terms of Section 25 of the Environmental Conservation Act, 1989 (Act No 73 of 1989), Govt Gaz. No.	Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs The Municipality of Otjiwarongo: Environmental Health Department	• Health and safety • Noise and vibration • Communities and socio-economic	Noise nuisance means any sound which disturbs or impairs, or is likely to disturb or impair the convenience, peace, safety, or health of any person residing within municipal areas	Nuverah Prime Investments CC and its proponents should ensure that noise emissions from their operations comply with the requirements of these Regulations and Code of Practice

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
National Heritage Act 27 of 2004	National Heritage Council	• Heritage and archaeology • Communities and socio-economic	In terms of Section 57 (7) no person may without a permit: (a) use an archaeological or palaeontological object or meteorite for the purpose of study, conservation, or presentation. (b) uncover or expose, or move from its original position, any archaeological or palaeontological object or meteorite. (c) carry out an investigation or survey of any land for the purpose of finding any archaeological or palaeontological object or meteorite. (d) alter or develop any land on or in which an archaeological or palaeontological site or a meteorite is believed to be located. (e) carry out an act likely to endanger an archaeological or palaeontological object or meteorite;	Nuverah Prime Investments CC should ensure that if any archaeological or palaeontological objects as described in this Act are found during its construction operations or closure that such find be reported to the relevant Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any object of heritage significance as envisaged by this Act.
Road Traffic and Transport Act 22 of 1999; (as amended by the Road Traffic and Transport Amendment Act 6 of 2008)	Municipality of Otjiwarongo	• Air quality and GHG emissions • Hazardous materials and contamination	In terms of Section 64 the operator of a motor vehicle shall, inter alia ensure that the conveyance of dangerous goods is undertaken in accordance with such requirements as are	Construction activities must comply with these regulations for safe transportation methods of plant and equipment to work sites.

		• Disaster management and risk • Communities and socio-economic • Health and safety	prescribed by or under this Act or any other law pertaining to such goods.	
Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
The Pollution Control and Waste Management Bill, 1999	Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs	• Water use and quality control • Hazardous materials and contamination • Noise and vibration • Visual amenities • Land use stewardship • Biodiversity • Heritage and archaeology • Disaster management and risk • Communities and socio-economic • Occupational Health and safety	The Bill aims to promote sustainable development; to prevent and regulate the discharge of pollutants to the air, water, and land, to regulate noise, dust, and odour pollution, to make provision for the establishment of an appropriate framework for integrated pollution prevention and control, to establish a system of waste planning and management and to enable Namibia to comply with its obligations under international law in this regard.	There will be discharge of pollutants to the air, water and land, generation of noise, dust and odour pollution during the civil works construction and operational phases and this must be reduced to as low as reasonably possible it if cannot be mitigated

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Public Health Act 36 of 1919	Ministry of Health and Social Services Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs	• Air quality and GHG emissions • Hazardous materials and contamination • Noise and vibration • Disaster management and risk • Communities and socio-economic • Health and Safety	Section 132: empowers the Minister to make regulations regarding, inter alia, the drainage of land or premises, the disposal of liquids and the removal and disposal of rubbish, refuse, manure and waste matters as well as regarding the establishment and carrying on of factories or trade premises which are liable to cause offensive smells or effluvia or to discharge liquid or other material liable to cause such smells or effluvia or to pollute streams and prohibiting the establishment or carrying on of such factories in unsuitable localities. Section 119: no person shall cause a nuisance on any premises owned or occupied by him. Offensive smells or effluvia and excessive smoke are deemed to be nuisances.	Relevant for the purposes of land development activities and the provisions of the Act that regulate trades which are liable to cause offensive smells and nuisances and, in this case, will be animal biological waste, dust and noise as well as management of Covid-19 and animal borne diseases Regulations and protocols.

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Soil Conservation Act 76 of 1969 (as amended in South Africa to March 1978)	Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs	• Water use and quality control • Land use stewardship • Biodiversity	In terms of section 3 of the Act, the Minister of Agriculture, Water and Forestry ("the Minister") may either by written notice in the Gazette or by written notice to the owner or occupier of land issue directions in respect of, inter alia: (a) the drainage of vleis, marshes, natural water sponges and water courses. (b) the protection and stabilising of barrier dunes on the coast, of other dunes where drift sand occurs or may occur and of the vegetation occurring thereon. (c) the prevention of erosion, the denudation, disturbance, or drainage of land; and (d) any other disturbance of the soil which creates or may create conditions which cause or may cause any form of erosion or pollution of water by silt or drift sand.	Construction activities may impact on conditions which cause or may cause erosion and will be obliged to comply with any such directions as may be issued by the Minister in terms of this Act. Storm water draining infrastructure needs to be installed and managed accordingly.
Tobacco Products Control Act No 1 of 2010	Ministry of Health and Social Services (MHSS)	• Community health • Fire safety	Prohibited distance of smoking tobacco products from public places and workplaces	By law you may not smoke next to others or shared public spaces and workplaces. For fire safety management smoking is

				banned from some work areas.
Urban and Regional Planning Act No 5 of 2018	Ministry of Urban and Rural Development	• Urban planning and consents	Consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles. and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning. to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review, and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land	The NIDA Industrial Park is already zoned a heavy industrial zone and thus the planned activities fall under this scope.

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Social Security Act 34 of 1994	Social Security Commission Ministry of Labour	• Disaster management and risk • Communities and socio-economic • Health and safety	This Act provides for the payment of maternity leave benefits, sick leave benefits and death benefits to employees and pension benefit to retired employees. The act applies in relation to every employer, and employee. The Act requires that, every employer, in the prescribed manner and period, registers himself or herself with the Commission as an employer and every employee employed by him or her.	Nuverah Prime Investments CC will be required to register and pay contributions to the Social Security Commission for all their current and future employees.
Water Act 54 of 1956	Ministry of Agriculture, Water & Forestry (MAWF)	• Mineral waste • Non-mineral waste • Water use and quality control • Hazardous materials and contamination • Land use stewardship • Biodiversity • Disaster management and risk • Communities and socio-economic	This Act provides for the control, conservation, and use of water for domestic, agricultural, urban, and industrial purposes and for the control of certain activities on or in water in certain areas. The user of water for industrial purposes must furnish the Department of Water Affairs in writing with those particulars regarding the use and disposal of purified or treated water as may be prescribed by regulation (section 21(1)(c)).	Municipal water supplies and discharge will be to the Municipal sewer. Any effluent produced will have to be treated in accordance with requirements set out in section 21(1) and (2) of the Act. The applicable standards for Namibia are those which were promulgated by the Minister by Notice in the Gazette in 1962 (R553 Regional Standards for Industrial Effluent, in

				Government Gazette No 217 dated 5 April 1962). Should waste water be discharged, a permit is required. Nuverah Prime Investments CC are obliged to have a comprehensive plan in place to avoid the pollution of ground water.
Water Resources Management Act 24 of 2004	Ministry of Environment, Forestry and Tourism (MEFT)	• Mineral waste • Non-mineral waste • Water use and quality control • Hazardous materials and contamination • Land use stewardship • Biodiversity • Disaster management and risk • Communities and socio-economic	This was enacted to replace the Water Act 54 of 1956, which is generally outdated, with a view to reforming the use and management of Namibia's water resources. However, this Act has not yet been put into force. Like the 1956 Act, even though the main thrust is geared at freshwater. 56 to 71) which deals with Water Pollution Control stipulates that a person may not discharge effluent directly or indirectly to any 'water resource' unless such person is following a permit issued in terms of section 60. The term 'Effluent' is defined to mean "… any liquid discharged as a result of domestic, commercial, industrial or agricultural activities".	This Act has yet to enter into force. As such, the provisions of the Water Act 54 of 1956 regarding pollution of water still apply. See comments above for the Water Act 54 of 1956.

Relevant Legislation, Regulations and Guidelines	Regulatory authority	Aspects	Summary of legislative provisions	Relevance to the works
Hazardous Substances Ordinance (No. 14 of 1974)	Ministry of Health and Social Welfare (MoHSS).	• Non-mineral waste • Hazardous materials and contamination • Land use stewardship • Biodiversity • Communities and socio-economic • Health and safety	The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export. Its primary purpose is to prevent hazardous substances from causing injury, ill-health, or the death of human beings.	Nuverah Prime Investments CC will be required to adhere to the requirements of the Ordinance.
Solid and Hazardous Waste Management Regulations: Local Authorities 1992	Municipality of Otjiwarongo	• Non-mineral waste • Water use and quality control • Hazardous materials and contamination • Land use stewardship • Biodiversity • Disaster management and risk • Communities and socio-economic	The Regulations and by-laws provide for the effective management and handling of industrial, business, and domestic waste and effluents.	Nuverah Prime Investments CC are obliged to have a comprehensive plan in place to avoid the pollution of ground water and the proper handling, treatment and transportation of solid, liquid waste and effluent.

6. The need for the project and its benefits are explained using the three pillars of sustainable development.

The proposed development directly falls under and within the Otjiwarongo Municipal area of jurisdiction and Townlands. Since its established, the NIDA Industrial Park is zoned a heavy industrial park and have an Environmental Clearance to that effect. There is no abattoir in the Otjiwarongo Municipal Townlands and hence it can be beneficial to the town and region and can fulfil several needs, desires, and motivations. Here are some potential reasons for establishing such an abattoir:

Environmental Benefits:

- Reduced Carbon Footprint: Having the abattoir within the NIDA industrial park can reduce the carbon footprint associated with transportation. Farmers and livestock owners can transport their animals' shorter distances, resulting in lower fuel consumption and greenhouse gas emissions.
- Waste Management: The abattoir can implement proper waste management practices, including the treatment and disposal of animal by-products. These processes can be regulated and monitored more effectively in the NIDA industrial park setting, minimizing potential environmental pollution, and promoting sustainability.
- Sustainable Resource Utilization: The abattoir can implement sustainable practices, such as using renewable energy sources for power generation or incorporating water conservation measures. Additionally, by-products from the abattoir, such as animal fats and bones, can be utilized for various purposes, such as biofuel production or manufacturing of by-products, reducing waste and promoting resource efficiency.

Social Benefits:

- Employment Opportunities: The establishment of an abattoir in the NIDA industrial park can create job opportunities for the local community. These jobs can range from skilled positions in meat processing and quality control to support roles in administration, maintenance, and transportation. The availability of employment can enhance local livelihoods and contribute to poverty alleviation in Otjiwarongo and the Otjozondjupa Region at large.
- Skill Development: The presence of the abattoir can provide opportunities for skill development and training in various aspects of the meat industry. This can enable individuals to acquire specialized skills and knowledge, improving their employability and promoting professional growth within the sector.
- Community Development: The abattoir can contribute to the overall development of the community in Otjiwarongo. It can engage in corporate social responsibility initiatives, such as supporting local schools, healthcare facilities, or infrastructure projects. This involvement can enhance social cohesion, improve living standards, and foster community well-being.

Economic Benefits:

- Need for Local Meat Processing: One need is to meet the demand for local meat processing facilities. With an abattoir in Otjiwarongo, local farmers and livestock owners can have access to a nearby facility for slaughtering, processing, and packaging their animals, eliminating the need for long-distance transportation to other abattoirs. This can reduce stress on animals and improve the overall quality and freshness of the meat.
- Industrial Growth: The establishment of the abattoir in the NIDA industrial park can attract other businesses and industries to the area. The synergistic effect of various companies operating in proximity can create an industrial cluster, fostering economic growth and diversification. This can lead to increased investment, trade, and overall economic development.
- Value Addition and Revenue Generation: The abattoir can provide opportunities for value addition to livestock products. By processing and packaging meat locally, the abattoir can add value to the raw materials and potentially command higher prices in the market. This can contribute to increased revenue generation for farmers, livestock owners, and the abattoir itself.
- Export Potential: If the abattoir meets international standards and regulations, it can open doors for meat exports. This can generate foreign exchange earnings and contribute to the balance of trade. Export-oriented operations can also incentivize quality improvement and innovation within the abattoir and the broader meat industry.
- Food Security and Self-Sufficiency: Having a local abattoir can enhance food security by ensuring a consistent supply of locally produced meat. It reduces reliance on imported meat products and the associated risks of disruptions in the global supply chain. By supporting local farmers and livestock owners, the abattoir can contribute to the overall self-sufficiency of the region in meeting its meat consumption needs.
- Quality Control and Food Safety: The establishment of a Class C abattoir indicates adherence to certain regulatory standards and requirements for animal welfare, hygiene, and food safety. This ensures that the meat produced meets quality standards and is safe for consumption. Local consumers can have confidence in the integrity and safety of the meat products originating from the abattoir.

Establishing an abattoir at the NIDA Industrial Park in Otjiwarongo, Namibia, can bring about positive environmental practices, social development, and economic growth. It is essential, however, to ensure that the abattoir operates in compliance with environmental regulations, upholds animal welfare standards, and promotes sustainable practices throughout its operations. These factors collectively make it desirable and motivate the establishment of such a facility.

The proposed activity is in line with the objectives of the Otjiwarongo 5-year Strategic Plan, the Otjiwarongo Zoning Scheme: Urban and Regional Planning. Act, 2018, Namibia's 5th

National development plan (NDP5) as well as The Harambee Prosperity Plan II (covering the period 2021-2025). There is no suitable alternative to the proposed development.

7. Development Proposal

7.1. Locality, Size and Existing Land Use

The proposed project site is located within the Otjozondjupa region, approximately 240 kilometres north of Windhoek, the capital City of Namibia.

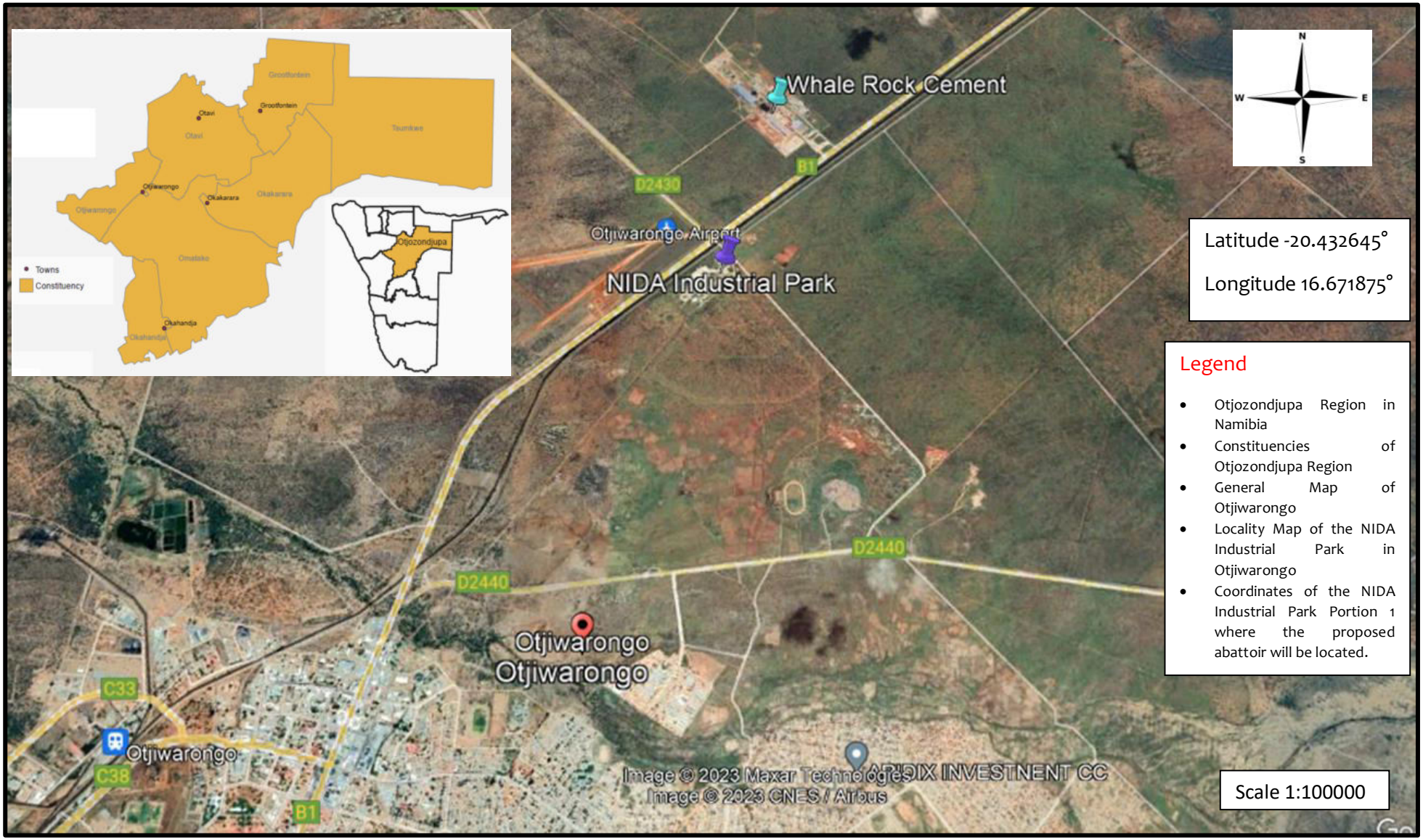
The property lies at Latitude -20.432645° and Longitude 16.671875°. It is ±3.79 km to the northeast of Otjiwarongo on the B1 road and can be accessed 10 metres turning right off the B1 before the Otjiwarongo-Otavi Roadblock and Otjiwarongo and Cheetah Whale Rock Cement turnoff via the D2430 road, with a separate gravel road leading to the property. Figure 1 and Figure 2). The total surface area for the abattoir and ancillary facilities land of Portion 1 is 2 hectares.

The site is un-used and overgrown with natural vegetation but the remainder of Portion 15 (Ptn 2,3,8,9,10,10 & 12) was used as a cement plant in the past but the buildings have been demolished and the plants removed. The entire NIDA Industrial Park is fenced off with precast fencing with access control in place.

Picture 1 Entrance gate to the NIDA Industrial Park

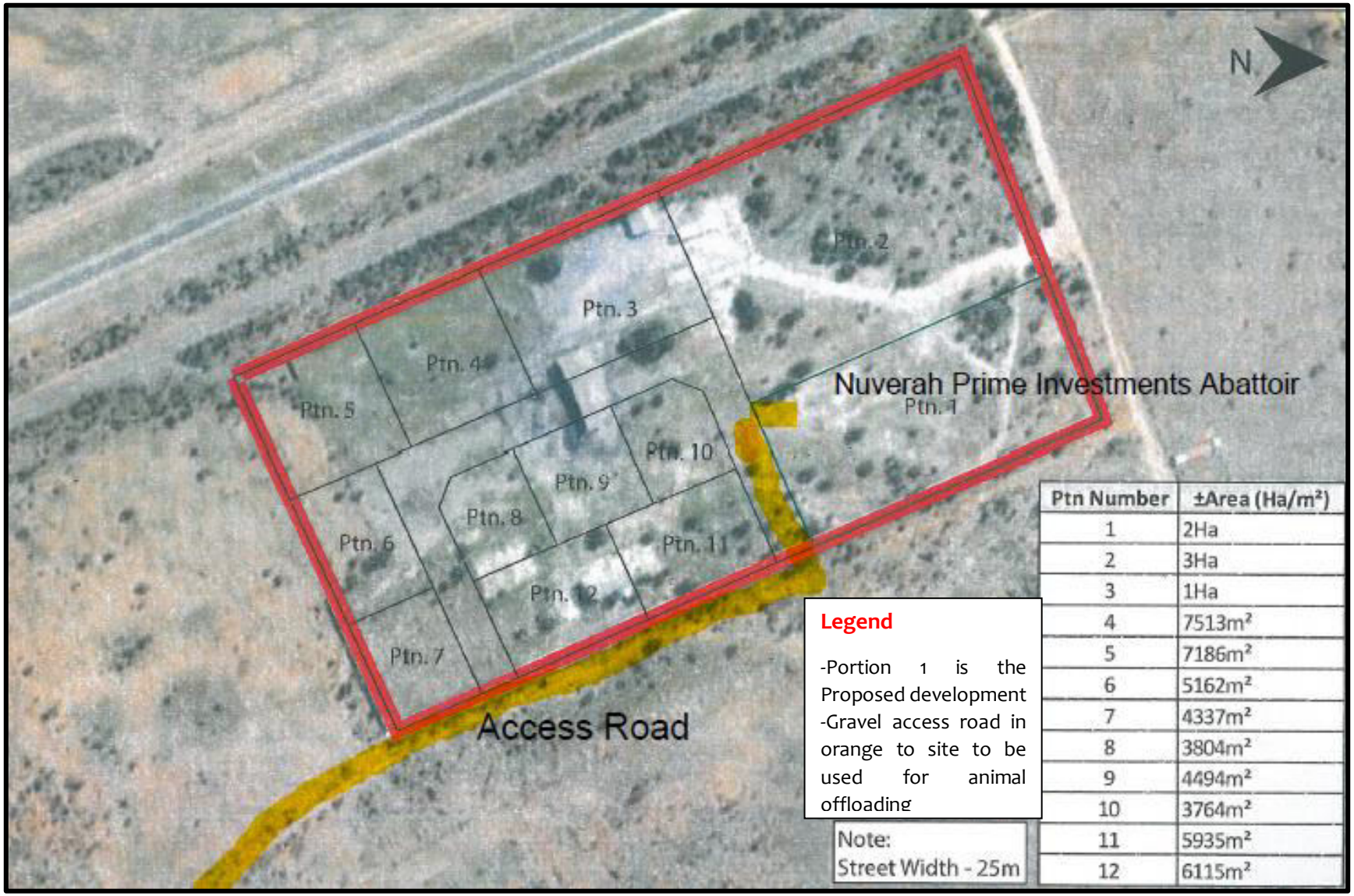
Picture 2 Disused infrastructure within the NIDA Industrial Park

Picture 3 Precast fencing around the NIDA Industrial Park



Picture 4 Locality Map of the NIDA Industrial Park northeast of Otjiwarongo in the Otjozondjupa Region

Picture 5 Locality Map of the Nuverah Prime Investments Abattoir at the NIDA Industrial Park



Ptn Number	±Area (Ha/m²)
1	2Ha
2	3Ha
3	1Ha
4	7513m²
5	7186m²
6	5162m²
7	4337m²
8	3804m²
9	4494m²
10	3764m²
11	5935m²
12	6115m²

Picture 5 Approved Otjiwarongo NIDA Industrial Park plot divisions and sizes

7.2. Intent and Overview

The intent to conduct an ESA is ultimately to aid in obtaining permissions and authorisations for the.

- Proposed Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo, Otjozondjupa Region, Namibia.

The proposed project is one of its kind in Otjiwarongo and is envisaged to become a modern abattoir processing meat product for local and national markets. Additionally, it is meant to minimize movement of live animals by small scale subsistence traders as has been the case over the years. The abattoir will offer the needed opportunity to process beef, goat, sheep and pig carcasses and transport to different areas using vehicles a much cheaper and effective method.

8. Description of the Proposed Project

The Otjozondjupa Region is renowned for its livestock production and marketing and is one of the leading regions in the sector. Despite its livestock productivity and marketing potentials, the Region is yet to fully exploit the existing and emerging opportunities.

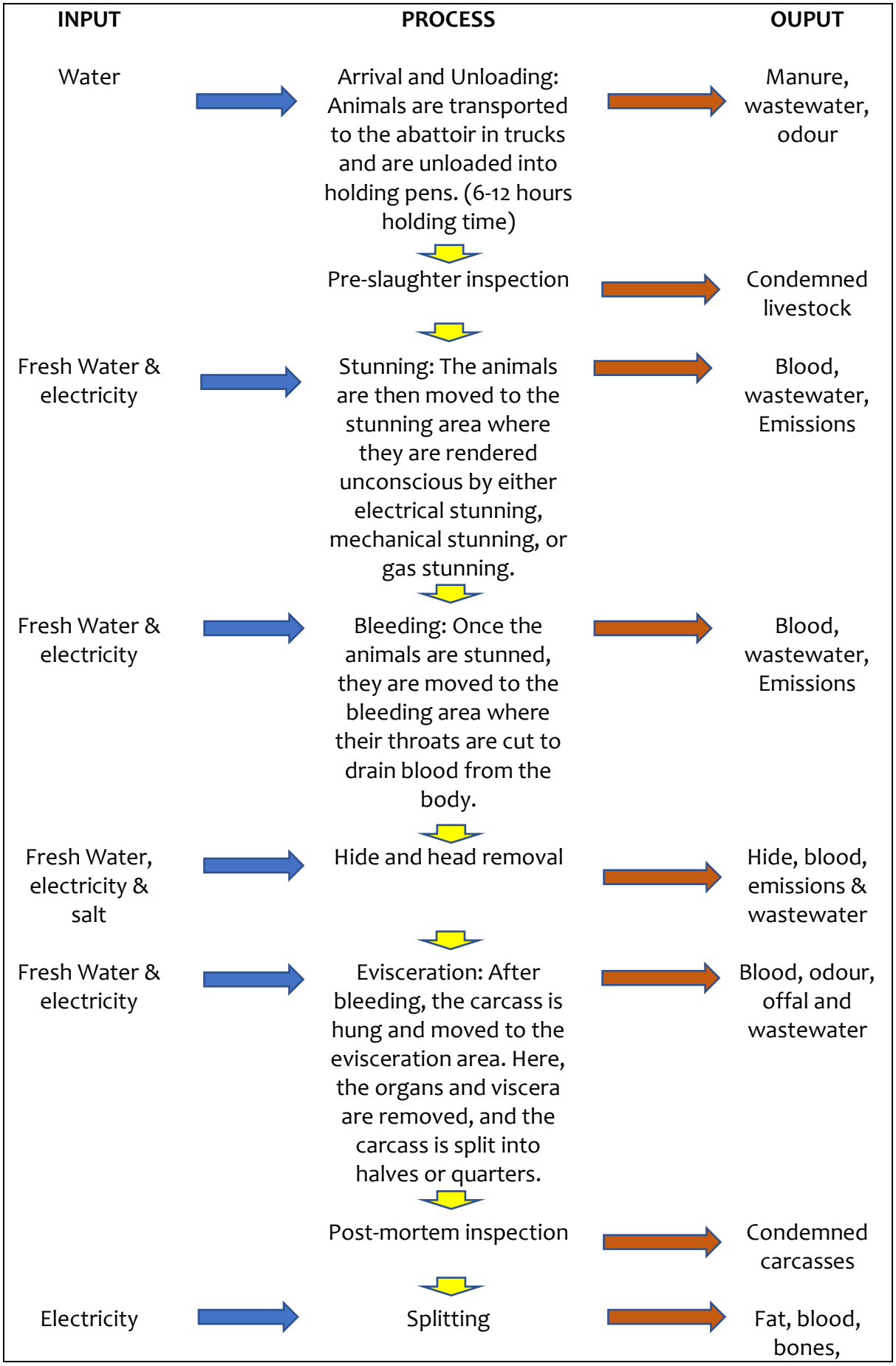
The Region lacks multiplier infrastructure in the livestock sector such as modern abattoir and better and modern road infrastructure, among others as most livestock in the form of weaners are exported on the hoof to South Africa where they fetch higher prices. The construction of a modern abattoir in Otjiwarongo and the Region is therefore timely and is coming at a time when the country's focus is on establishment of agro-processing industries to not only spur economic growth but also to modernize the livestock sector.

The proposed abattoir site is within a well-defined land-use area the NIDA Industrial Park within the Otjiwarongo townlands is also a positive factor constructing the facility on a brownfield area that is currently going to waste and has been sitting idle for many years.

8.2. Facility Design

The proposed design is meant to cater for the slaughter of major livestock species in the Otjiwarongo area and the Otjozondjupa Region at large namely cattle, sheep, goats, and pigs and follows the "Guidelines on Slaughterhouses and Meat Hygiene for Developing Countries" WHO publication VPH 83.56.

Figure 1 shows a flowchart of the slaughtering process in this type of production facility of the proposed abattoir. The proposed abattoir will be a modern, state-of-the-art micro-slaughterhouse facility designed for daily throughputs of approximately up to 8 cattle per day, 5 goats per day, 5 sheep per day and 10 pigs per week or a combination thereof represent a practical minimum for the proposed design.


INPUT
PROCESS
OUPUT
Water
Arrival and Unloading: Animals are transported to the abattoir in trucks and are unloaded into holding pens. (6-12 hours holding time)
Manure, wastewater, odour
Pre-slaughter inspection
Condemned livestock
Fresh Water & electricity
Stunning: The animals are then moved to the stunning area where they are rendered unconscious by either electrical stunning, mechanical stunning, or gas stunning.
Blood, wastewater, Emissions
Fresh Water & electricity
Bleeding: Once the animals are stunned, they are moved to the bleeding area where their throats are cut to drain blood from the body.
Blood, wastewater, Emissions
Fresh Water, electricity & salt
Hide and head removal
Hide, blood, emissions & wastewater
Fresh Water & electricity
Evisceration: After bleeding, the carcass is hung and moved to the evisceration area. Here, the organs and viscera are removed, and the carcass is split into halves or quarters.
Blood, odour, offal and wastewater
Post-mortem inspection
Condemned carcasses
Electricity
Splitting
Fat, blood, bones,

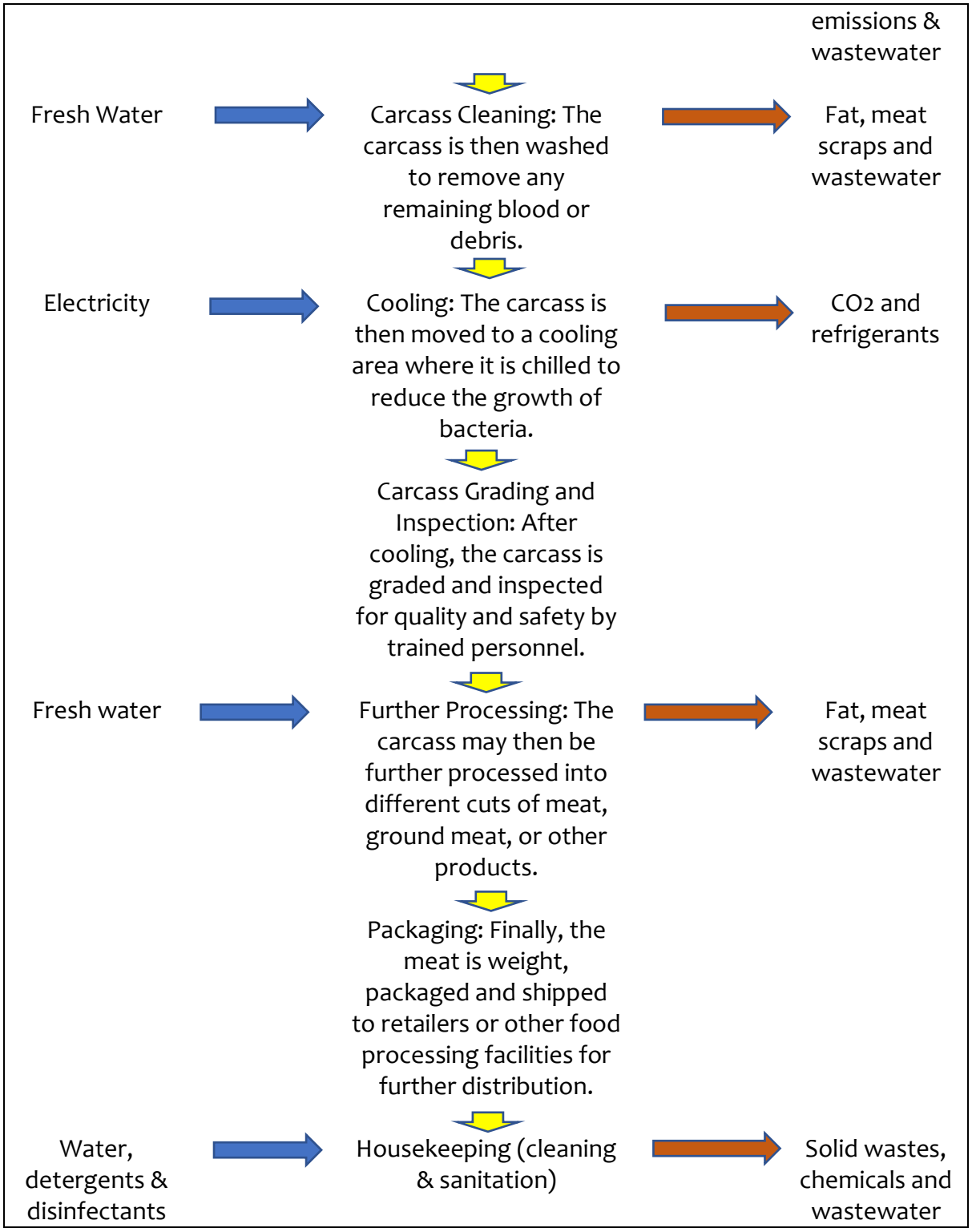


Figure 1 Flowchart of input, process and outputs from the proposed abattoir

Throughout the process, strict hygiene and safety measures should be taken to ensure that the meat is safe for human consumption. The following key facilities that characterize a modern abattoir will be included in the design.

8.3. Production, processing, and dispatch facilities

8.3.1. Holding pens

Transportation of animals over long distances travelling on foot or overcrowding in transportation and exposure to extreme weather shall be avoided for all animals earmarked for the proposed Nuverah abattoir.

A livestock holding pen meant for animals earmarked for the slaughter is proposed in the design. This shall be the first facility to receive the animals. The facility will be designed with loading and offloading ramps for ease of operation and will have adequate livestock trucks parking.

The animals will be rested in this facility for 2-3 days and provided with adequate fodder and water. Pre-slaughter inspections will be carried out in this section for purposes of clearing the animals for slaughter. Overcrowding of the animals shall be avoided in this facility, and animals not passed for slaughter removed.

The holding pens will be designed to have enough open areas for vehicle turns and will be located opposite to the side from where processed product meat will be dispatched to separate the dirty areas from clean areas. It will be designed to have water and feeding facilities for both small and large stocks.

A separate isolation pen with watering and feeding arrangements for animals suspected to be suffering from contagious and infectious diseases and fractious animals should be constructed. All suspected animals will be sent to the isolation pen directly from the stockyard.

8.3.2. Lairage section

This facility will be incorporated in the design and is meant to keep cleared animals from the stockyard for two to three days stock for slaughter. The facility will have a reception area and after passing through the reception area the animals reach to the lairage where these are rested before slaughter.

The rest is given to restore their normal physiological condition. Usually, animals travel long distances to reach abattoirs and if not rested properly the quality of meat is adversely affected. The facility will be equipped with all resources/structures to make the animals feel animal comfortable, and are protected from the elements (heat, cold and rain).

It will be designed with adequate space for both large and small stocks to be slaughtered. Lairage is provided with abundant water and feed and is constructed in such a manner as to separately keep animals depending upon their type and class. Again, the facility will have a separate isolation pen for suspected fractious animals as in case of stockyard. The lairage area will be designed as per the specifications of daily outputs as follows: Cattle ($1.7m^2$/head and sheep/goat ($0.4m^2$/head).

8.3.3. Condemned/quarantine animals pens.

This facility will be designed to be beside the livestock yard/lairage. Following ante-mortem inspection, all condemned or quarantined animals should be taken to this facility and removed from the boundaries of the abattoir for remedial actions or emergency slaughter.

8.3.4. Slaughterhouse hall section

From lairage, animals will be transferred to the slaughter hall, situated at approximately 10 meters from lairage. In the slaughter hall, separate provisions for slaughtering, dressing, and processing of small and large stock will be provided. The slaughter hall will have several sections including:

- Drive/races: From the holding pen the animals will be driven to the stunning pen through drive/races. The drive is a curved path with single file accommodation and a stop gate. The animals will continuously be guided by a person to the stunning pen.
- Stunning pen: This is an area where the animals will be made unconscious before killing. It will be designed to consider the type of stunning procedures to be followed as well as Halal slaughter.
- Bleeding area: Immediately after stunning, the animals will be bled to death. This area will possess a good gradient for collection of blood and is in such a manner as to avoid blood splashing onto other animals being slaughtered or on the carcasses being skinned. Blood drain and collection will be properly designed with a drain channel diameter of 150mm. The bleeding trough for large animals will be designed with diameter of 1.5m wide while for small stock, the diameter has been set at 1.2m. These will be enclosed on both sides and have smooth impervious surfaces of stainless steel.
- Carcass dressing area: This is an area where several operations will be carried out such as removal of hide and skin, head removal, evisceration, splitting, trimming and final wash etc. Dressing of carcasses will be done on the floor. Adequate means for immediate disposal of hides or skins will be provided. In addition to this, provisions will be made for immediate disposal of legs, horns, hooves etc. Adequate number of hand wash basins with sterilizers and hot and cold-water outlets will be provided in this area as well as sufficient space for the de-boning, removal, and thorough washing of heads. A moving top evisceration table with cold water sprays to remove blood and extraneous material, and synchronized with the eviscerating rail will be provided.
- Inspection area: Before evisceration the carcass will be examined carefully for any pathological lesions. This section will act as a clearing area before carcasses are ready for sending to the next section. All visceral organs and the whole eviscerated carcass will be re-examined carefully. It will then be decided whether the carcass is sent to chilling section or condemned meat room or detention room. This section will be provided with adequate space for examination of viscera of various types of

animals slaughtered. Hand washing, tool sterilization, floor washing and facilities for separation and disposal of condemned material will be provided in this area.

- Carcass washing area: This is a separately drained area, or an area of sufficient size slopped to a floor drain provided for washing of the approved carcasses with a jet of water.

8.3.5. Cutting and deboning room section

This is a section where meat cutting, and removal of bones will be undertaken. Once the carcass is firmly set in a chilling room, deboning (separation of meat from bone) becomes easier and cut into pieces. The operation in this section will be performed in controlled temperatures (10-12°C) by skilled and efficient workers. An adequate number of knife sanitizers will be provided at strategic locations and the area will have good illumination.

8.3.6. Packaging and despatch section

Adjacent to the cutting and deboning room will be a packaging room where the meat portions are packaged and after freezing, they are kept under frozen condition (-40°C) before despatch. The despatch area will have adequate space to allow for orderly and efficient loading of meat into a transport vehicle. At the time of loading, a docking system will be implemented whereby there is no air movement into the despatch area or vehicle.

8.3.7. Condemned meat room section

This area will be directly connected with the inspection area. It will have adequate space, refrigeration, and drainage along with supply of durable and lockable container and weighing facilities essential to arrange for sorting and holding of materials unfit for human consumption prior to despatch. This room will be provided with only one door located outside the building, and with a lock to enforce access control.

8.3.8. Detained meat room section

This area will have sufficient facilities provided for the isolation of the meat requiring further examination as sometime the inspector/veterinarian may be neither in a position to discard the carcass nor to pass it to chilling section.

In such cases a detailed report from a quality control laboratory and viscera examination section is needed. The detained meat room will be located adjacent to the main slaughter hall inspection point and will be connected with the condemned meat room as well as chilling section since after clearance of pending decision, carcass will be accordingly sent.

8.3.9. Quality control laboratory section

This area is meant for detailed examination of specimen from carcass and their respective viscera. Microbiological and other relevant tests will be conducted there. The area will be well equipped for detailed examination of the carcass and the organs because the final decision of acceptance or rejection of the meat and the offal's depends on the report of the quality control laboratory. This area will be directly connected with the slaughter hall.

8.4. Meat processing facility

This facility in the design is meant for processing meat including packaging and will be linked to the production facility. Figure 2 shows the flowchart of the meat processing at the proposed abattoir. Carcases from the production section will be processed into pieces that can be packaged and sold to customers as packed meat products.

The process involves de-boning meat is separated from the bones then packaged. Once the meat is de boned, it is inspected and sent to packing section. After packing in small parts, that are then put in trays and again taken to the freezer/chillers section awaiting supply to the market. This section will be connected to clean and warm water supply.

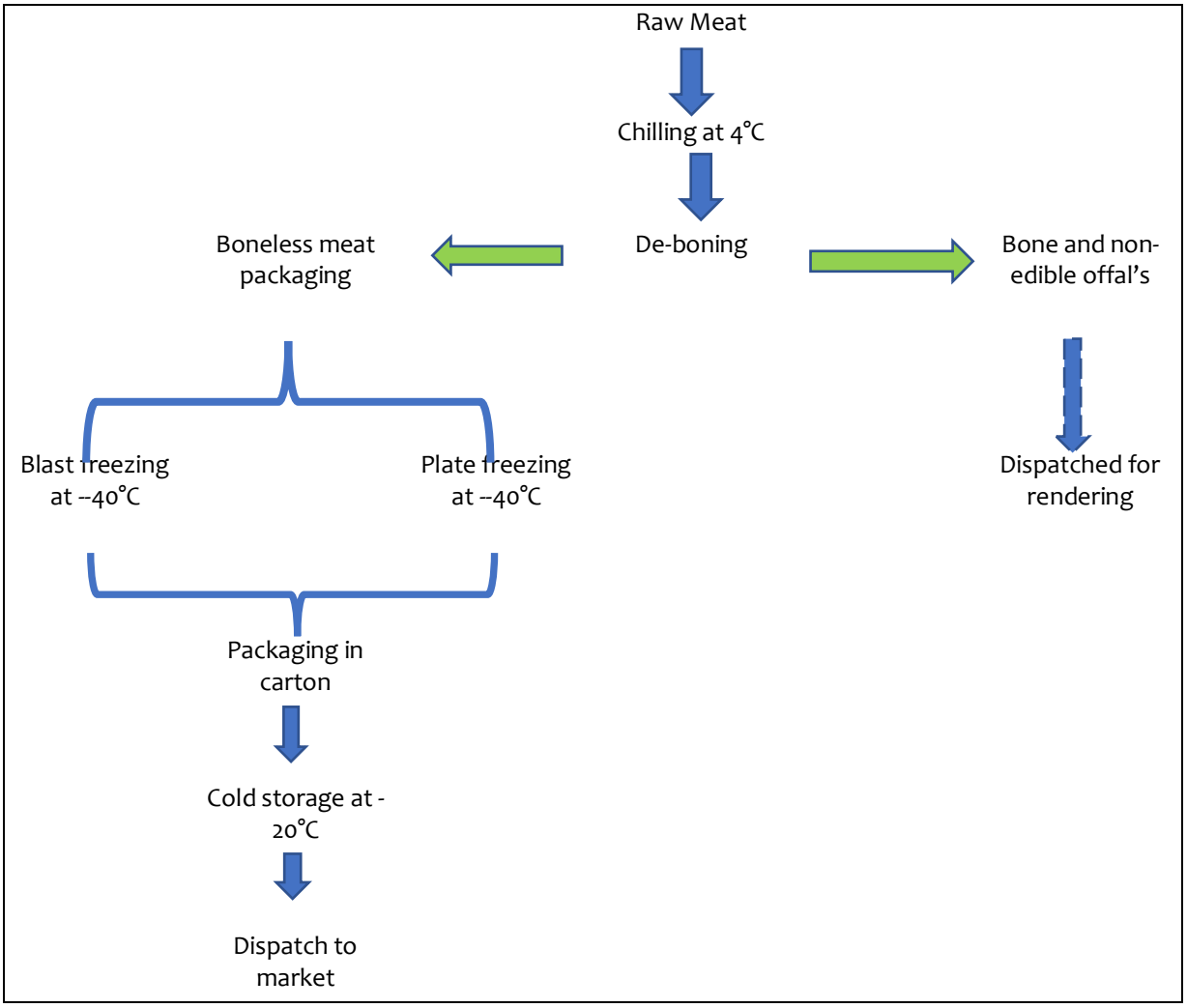


Figure 2 Flow chart of the meat processing at the proposed abattoir

8.5. Meat dispatch facility

This is a facility in the design where the products from both production and processing facilities leave the abattoir for the market. This facility is designed with good packing space able to accommodate cold storage vehicles. It is well supplied with water for purposes of cleaning meat transportation containers.

8.6. Ancillary and service facilities

Besides these main components, the proposed abattoir will have the following accessories" sections:

8.6.1. Blood collection

This is an underground to the bleeding area and divided into two sections namely, edible blood collection section and an inedible one. Blood has got nutritional as well as commercial importance and it cannot be allowed in waste as in traditional slaughter system.

A provision will be made in the design to ensure that blood is not diverted into liquid waste effluent system as blood can quickly clog up the screens and disposal trenches. Special blood collection pits will be included in the design adjacent to the bleed area in the production unit for purposes of collecting blood for recycling as blood is a good source of protein and can also be used in the manufacture of pharmaceutical products.

The pits will be well secured from rain and insects. Consistent processing of animal blood into blood plasma or blood meal is a possible way of increasing the profitability of the proposed abattoir. Obtaining blood plasma in particular opens lucrative opportunities because this product is very much in demand from a wide variety of industries due to the valuable constituents it contains.

Blood plasma is used as an additive in the food sector as well as in the pharmaceutical and pet food industries. Blood is composed of cellular and liquid components. Plasma remains when the corpuscles are removed from liquid blood. To prevent the blood from clotting, an anticoagulant is added when the blood is collected from the arteries of slaughtered animals. Calcium-binding substances such as citrates are suitable for this purpose. Clotting is unable to start because of thrombin formation being inhibited. Figure 3 shows the flow process for blood processing.

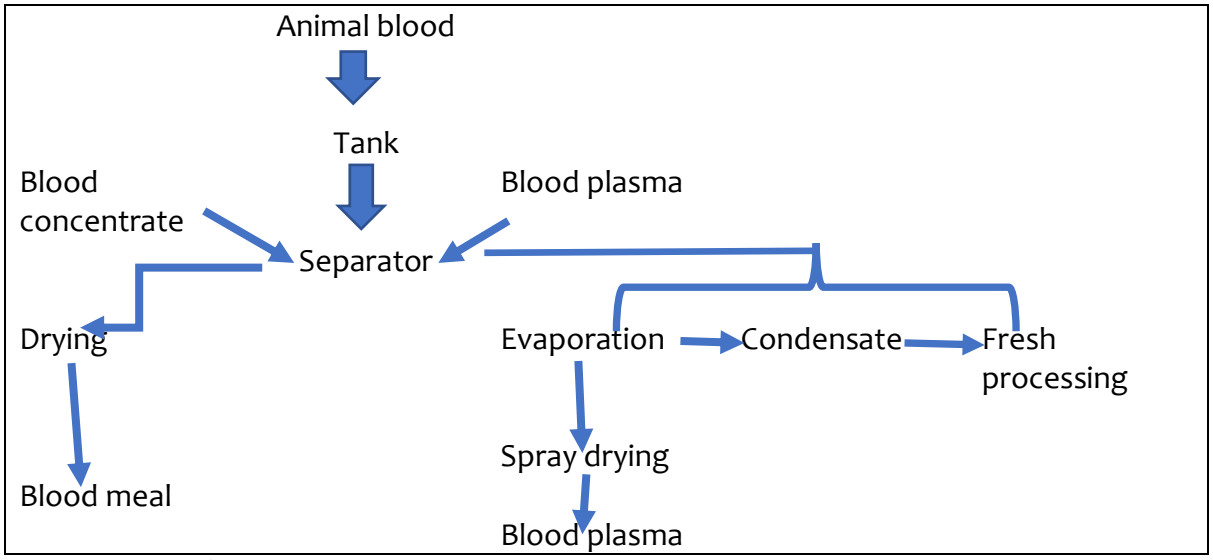


Figure 3 Flowchart of blood processing to blood meal and blood plasma

8.6.2. Hide and skin store

Along with other by products, hides and skin need to be stored before despatch. A provision will be made in the design for temporary storage before transportation to a nearby tannery. It is expected that the tannery will be able to handle all hides and skins by products from the abattoir.

8.6.3. Gut and tripe room

This is a separate room and hanging space provided for emptying and cleaning of stomach and intestine and will have a separate exit. This area will be designed with provisions for the preparation of casing, tripe, and edible fat.

8.6.4. Red offal room

The design will have provision for red offal's. Many of visceral organs have commercial as well as food value. Among the red offal's include liver, lungs, heart, kidney etc. These are organs which should be trimmed and then placed in a chill or freezing room depending on ultimate system of disposal.

This room will be designed with provision for edible and inedible sections red viscera for further processing. This section will be located separately from the slaughter floor but, with two connecting doorways with self-closing doors.

8.6.5. Rendering plant

This section deals with extraction of fat from carcass parts, condemned carcass/diseased one by applying high temperature processing. The materials left after fat extraction can be used for animal feed-fertilizer. The whole section of rendering plant will be divided into edible fat section and inedible fat section – see details in the solid wastes section.

8.6.6. Inedible area

All materials unfit for human consumption except for hides and skins will be kept in the section away from edible areas called inedible area.

8.6.7. Equipment wash

A provision for equipment washes section will be included in the design to avoid buggies, bins and washing of equipment at improper places. The equipment wash section will have a one-way system of passing in equipment. The section ensures the entry of dirty equipment's entry from one side and exit of only clean equipment's from the other side.

8.6.8. Veterinary office and laboratory

This section will have essential facilities and equipment's to carry out inspection work in the various parts of the facility for the veterinarian.

8.6.9. Vehicle washing

Separate sections for cleaning of meat transport and animal transport vehicles will be provided for in the design.

8.6.10. Roads

For administrative purposes the site will be accessed from the Otjiwarongo-Otavi B1 road and at the existing D2430 road at the turnoff point from the B1 road. This road is a gravel road that leads to the property.

For the transportation of livestock, the gravel road that branches of left from the D2440 northeast of the Otjiwarongo bridge behind Shell Otjiwarongo Service Station will be used to travel to the site for offloading of live animals. See Page 40, Picture 6 Approved Otjiwarongo NIDA Industrial Park plot divisions and sizes.

8.6.11. Water supply and storage

There is a disused well onsite, but this water will not be used in the processing facilities for hygiene purposes. Permission will be sought from the Ministry of Agriculture, Water and Forestry (MAWF), the Ministry of Environment, Forestry and Tourism (MEFT) and the Otjiwarongo Municipality for, water abstraction from the well on the NIDA Industrial Park premises for floor washdowns and animal washdowns before slaughter.

Freshwater will be supplied by the Otjiwarongo Municipality as part of the services supplied to the NIDA Industrial Park as it lies within the Otjiwarongo Townlands. Services are currently disconnected but, the landlord the Namibia Industrial Development Agency (NIDA) will be responsible to ensure services at reconnected and supplied to Portion 1 for use in the abattoir to abide to health and hygiene requirements and regulations and as per the lease agreement.

To supplement the abstraction of water from the well and supplement supply, water storage tanks will be stationed onsite to harvest rainwater from the abattoir roof surface to be used for washdowns etc.

On average, an abattoir typically requires around 200 to 300 Liters of water per large animal (e.g., cattle) for the slaughtering process. For smaller animals like goats and sheep, the water usage is relatively lower, around 50 to 100 Liters per animal. Pigs usually require about 50 to 150 Liters of water per animal.

Based on these estimates, we can calculate the water usage for the proposed slaughtering figures per animal:

- Cattle: 8 cattle * 250 Liters per cattle = 2,000 Liters per day
- Goats: 5 goats * 75 Liters per goat = 375 Liters per day
- Sheep: 5 sheep * 75 Liters per sheep = 375 Liters per day
- Pigs: 10 pigs * 100 Liters per pig = 1,000 Liters per week

Therefore, the total water usage for slaughtering 8 cattle per day, 5 goats per day, 5 sheep per day, and 10 pigs per week would be approximately 2,750 Liters per day and 1,000 Liters per week. This roughly amounts to 14,750 Liters per week for a 5-day week and 59,000 Liters per month and 708,000 Liters/708 cubic meter per year.

This consumption excludes water consumption in the administration block, ablution facilities and canteen etc.

A water drainage system will be constructed to enable the caption of effluents from cleaning purposes within the various process platforms so that it does not pollute the environment.

8.6.12. Stormwater and drainage

Provisions will be made in the design for a storm water drainage system to dispose excess water from the roofs and paved areas. The design of the storm water drainage system will be guided by the general topography in the area, and the layout design.

8.6.13. Electric and power supply system

Three sources of power are envisaged for the proposed abattoir. These are solar, biogas/Heavy Fuel Oil (HFO) and mains electricity from the national grid. While the mains supply is expected to run the heavy machinery, solar and biogas/HFO shall support the routine power needs such as lighting and water heating. Provision for installation of solar and biogas/HFO systems will be included in the design and will be added on when the abattoirs financial breakeven has been achieved.

The electricity for the operations phases will be supplied by a transformer, powered by CENORED overhead line as services are available at Portion 15 the NIDA Industrial Park. Electricity supply will be the responsibility of CENORED.

Picture 7 CENORED infrastructure/overhead powerlines adjacent to site

8.6.14. Back-generator

As a backup plan, a diesel generator will be kept on site and used in cases of power emergencies. A back-up generator location will be included in the design.

8.6.15. Sewerage

Since it is an industrial park located on a plot there are French drain systems for sewerage in place.

Picture 8 French drain systems on the NIDA Industrial Park premises

These will be rehabilitated, and new ones constructed where required and, services will be rendered by the Otjiwarongo Municipality to empty these and deposit the effluent at the Otjiwarongo Municipal sewerage and effluent ponds.

8.6. Effluent disposal and other by products facilities

8.6.1. Solid waste disposal

The abattoir will be designed to allow a continuous rendering process. A temporary solid waste collection section has been proposed where all solid wastes from the abattoir including bones, hoofs, heads, etc will be collected.

The raw material i.e., solid waste from the various processes will be collected in this section for purposes of recycling. A provision has been made for dung/ruminant contents collection area separate from other solid wastes within the facility which, will again be disposed or processed offsite.

Picture 9 Municipality of Otjiwarongo effluent treatment ponds

8.6.2. Manure bay

A large amount of dung from lairage, emptying of rumen and intestine is expected once the abattoir starts operations. This section will be provided for to deal with huge mass of manure to avoid problem of flies etc. Floors and walls of this area will be impervious/tiled, easily washable, properly drained and can be easily disinfected. The floor will be designed lower than other floors in the slaughterhouse.

8.6.3. Wastewater and treatment

This facility will be designed to cater for all wastewater expected from the facility. The main wastewater sources have been identified as: floor washing, carcasses washing, cleaning of offals (intestine etc), equipment washing, tools cleaning, cutting & packing table washing, from laboratory, boiler blow down, cooling tower discharge (once in a month) and domestic (toilets, canteen etc.).

The facility will have a wastewater treatment system/plan with a capacity of over 10 cubic metres keeping in view the effluent quantity generation. This design considers safety margin in addition to estimated flow for peak production period. The proposed treatment system will combine both anaerobic and aerobic systems.

The combined effluent generated from the proposed abattoir is expected to be non-toxic in nature and biodegradable in nature. An expected volume of over 10,000 litres of liquid wastes in expected from the facility at maximum operation capacity – 8 cattle per day, 5 goats per day, 5 sheep per day and 10 pigs per week. Considering the nature and quantity of combined effluent the proposed effluent treatment plant (ETP) will be designed for

over 10,000 litres with the treatment pattern adopting activated sludge process (ASP) along with physico-chemical treatment (PCT).

8.6.4. Ancillary facilities

The other facilities in the design will include facilities for personnel such as: offices, staff vehicle parking yards, security fencing and roads. Provisions for three gates will be incorporate in the sign. These are livestock entrance to stockyard, staff, and meat dispatch gates.

8.6.5. Staff Facilities

These facilities will mainly cater for staff sanitation and hygiene to be compliant to the health and hygiene standards and Legal Requirements. These facilities will be designed in a manner that allows for sufficient distance away from wet areas. The facilities for personnel will be designed to incorporate the following:

- Meeting hall: A provision for a meeting hall will be incorporated in the design. This is meant for purposes of discussion of daily activities. Risk assessments and Safety Talks etc.
- Canteen: A provision will be made for a staff canteen. This is supposed to cater for the welfare of staff when shift working is introduced during the proposed abattoir operation.
- Lockers: Each staff member will be provided a separate shelf with key and lock facility where they can keep their valuables. Cloak room should be provided at the staff entrance gate.
- Ablution: Provision will be made for separate toilets and showers for male and female staff. The numbers of ablution facilities will be sufficient according to the number of total workers of 70 and one shower per 15 employees.
- Dressing room: Adjacent to the ablution facilities will be the dressing rooms fitted with mirrors where the wet clothing could be put off. Soiled clothing should be separately kept in containers for washing every day.
- Aprons, hairnets, masks, and gloves: Every individual should be provided a sterilized apron, hairnet, and mask daily. All staff will be expected to wear hairnets in such a manner that the chances of hair falling could be minimized. Masks are meant to prevent any contamination from worker's respiratory system (nose and mouth). Gloves will be provided to workers of specialized section to prevent contact of meat with bare hands.
- Gumboots: Gum boots for abattoir workers will be provided for clean area workers. Foot dip with disinfectants for footwear at entrance and exit will be provided for in the design.
- Wash basin: Adequate wash basins or elongated washing troughs with individual taps will be provided for in the design, i.e., one for every 15 employees. Only hand wash soap with weak or no odour shall be used and proposed.

9. Surrounding land use and character

9.1. Physical Environment

The physical environment refers to the natural and built surroundings of the abattoir within the NIDA Industrial Park on the Otjiwarongo Townlands. It encompasses the physical characteristics, features, and components of the NIDA Industrial Park and surrounds that may be affected by the proposed development. Here are some key aspects considered in the assessment of the physical environment:

9.2.1. Geology and Soils

The assessment examined the geological formations and soil properties of the project area, including soil types, stability, permeability, and erosion potential. It evaluated the potential impacts on geological features and soil quality due to construction, excavation, or other activities.

The NIDA Industrial Park and its area of influence is located within the Townlands of Otjiwarongo and is a Brownfields area. Otjiwarongo, located in central-northern Namibia, exhibits specific geology and soil characteristics.

The area around Otjiwarongo is part of the Otavi Mountainland, which is characterized by rugged, hilly terrain. The Otavi Mountainland comprises sedimentary rock formations, including dolomite, limestone, shale, and sandstone.

Like much of central-northern Namibia, the dominant soil type in the Otjiwarongo area is Kalahari Sands. These soils are sandy, well-drained, and have low organic content. Kalahari Sands are relatively infertile, but support vegetation adapted to arid conditions.

There are shallow soils due to the underlying rock formations and these shallow soils may have limited water-holding capacity and fertility.

The abattoir will not have a negative impact on soils during construction and operation as aspects and impacts are localised and will be easily mitigated with the mitigation measures proposed in the Environmental Management Plan (EMP).

9.2.2. Topography and Landforms

The assessment considered the physical features of the land, such as slopes, hills, valleys, and landforms. It evaluated the potential impacts on topography, including the alteration of natural landforms or the disturbance of slopes and drainage patterns.

The topography and landforms in and around Otjiwarongo contribute to the unique character of the town and region. These features provide a range of habitats for wildlife, offer scenic beauty, and are of ecological and geological significance.

The area surrounding Otjiwarongo features hills and low-lying mountains, contributing to a varied topography. While not extremely high, these landforms add visual interest to the region and provide scenic views.

The Otjozondjupa region is known for its extensive plateaus, which are elevated flat areas with relatively steep sides. Plateau escarpments can be found in certain parts, where the plateau abruptly drops off, forming a steep slope or cliff.

Otjiwarongo and its surrounding areas are home to valleys and gorges formed by rivers and erosion. These landforms can create striking landscapes, with deep, narrow gorges carved into the land.

Numerous riverbeds and dry river channels are found in the area. These channels serve as temporary waterways during periods of rainfall but may remain dry for extended periods.

The region also encompasses vast plains and open grasslands, and this surround the NIDA Industrial Park. These flat or gently rolling areas are typically covered by grasses and support the growth of vegetation adapted to the semi-arid conditions.

9.2.3. Water Resources

This aspect assesses the impact of the project on surface water and groundwater resources. The assessment considers potential impacts on water quality, water availability, hydrological patterns, and aquatic habitats.

Otjiwarongo and in its vicinity has access to certain water sources that contribute to its water supply such as groundwater which, is a crucial water resource in the region. Otjiwarongo relies on underground water sources, primarily accessed through boreholes and wells. The town has established infrastructure for groundwater extraction and distribution to meet its water needs and this also supply the NIDA Industrial Park over metered connections.

The town is located within the Cuvelai-Etosha Basin, which is an important hydrological system in northern Namibia. The basin encompasses various rivers, streams, and ephemeral watercourses that contribute to the region's water resources.

The Berg River is a perennial river that runs through the Otjiwarongo area. It provides a source of water, particularly during periods of rainfall or when the river flows.

In semi-arid regions like Otjiwarongo, rainwater harvesting plays a significant role in supplementing water supplies. Many households and businesses employ rainwater collection systems to capture and store rainwater for domestic and agricultural purposes and this will be employed at the proposed abattoir.

Otjiwarongo, experiences a semi-arid climate, which significantly influences the hydrological patterns of the region.

The hydrological patterns in Otjiwarongo exhibit distinct seasonal variations. The Otjozondjupa Region and Otjiwarongo typically experiences a dry season and a rainy

season. The dry season, which usually extends from May to September, is characterized by minimal precipitation and low water availability. The rainy season, from October to April, brings occasional rainfall, leading to increased water flow in rivers and temporary water accumulation in certain areas.

The town is primarily located in an area with ephemeral rivers and streams. These watercourses are intermittent, meaning they flow only during and shortly after periods of rainfall. They are known as "dry rivers" or "seasonal rivers" and can experience rapid fluctuations in water flow depending on the rainfall patterns.

The wider region also features ephemeral pans, which are shallow depressions or flat areas that temporarily hold water during the rainy season. These pans fill up with rainwater and gradually evaporate or percolate into the ground as the dry season progresses.

Groundwater plays a crucial role in the hydrological patterns of Otjiwarongo. The town relies heavily on underground water sources, accessed through boreholes and wells. The water levels in aquifers can vary depending on the recharge rates from rainfall and the extraction rates for human use.

Due to the arid and semi-arid nature of the region, water scarcity and drought conditions can be a concern. The hydrological patterns reflect the limited water resources available, and managing water supply and demand is crucial for sustainable water use in the area.

The maximum demand for water in the proposed processing component of the abattoir is low at roughly amounts to 14,750 Liters per week for a 5-day week and 59,000 Liters per month and 708,000 Liters/708 cubic meter per year.

9.2.4. Climate and Climate Change

The assessment considered the local climate conditions, including temperature, precipitation, wind patterns, and seasonal variations. It also examined the project's potential contribution to greenhouse gas emissions and its vulnerability or adaptation to climate change impacts.

The town experiences a semi-arid climate with characteristics influenced by its geographic location as it falls within a semi-arid climate zone. It is characterized by low and highly variable precipitation, relatively high temperatures, and low humidity. The town and wider region typically receive low annual rainfall, making water availability a significant concern.

Otjiwarongo experiences distinct seasons. The dry season generally occurs from May to September, with minimal rainfall and cooler temperatures. The rainy season spans from October to April, with occasional thunderstorms and higher temperatures.

Otjiwarongo has relatively high average temperatures throughout the year. Summers (October to March) can be hot, with average highs reaching around 35°C or higher. Winters (June to August) are mild to warm, with average highs ranging from 22°C to 25°C.

The town and wider region receive low annual precipitation, averaging around 400-500 millimetres per year. Rainfall is variable and often irregular, with most of it occurring during the rainy season. Droughts and water scarcity can be common challenges.

Climate change poses potential challenges and impacts on Otjiwarongo and the wider Namibian region as it can lead to rising temperatures, exacerbating heat stress, and increasing water demand for agriculture and human use.

Climate change may alter rainfall patterns, potentially leading to increased variability and more intense rainfall events. This can impact water availability, agriculture, and overall ecosystem dynamics.

Climate change could contribute to more frequent or prolonged droughts, intensifying water scarcity and affecting agricultural activities, livestock farming, and local ecosystems.

Altered climate conditions may impact local vegetation, wildlife, and habitats, affecting biodiversity and ecological balance. It can also lead to increased climate variability, making it challenging to predict and manage water resources, agriculture, and other sectors reliant on stable climate patterns.

The proposed abattoir can potentially be affected by various climate impacts due to the semi-arid climate and potential changes associated with climate change. Water scarcity and reduced water availability can be a significant challenge in semi-arid regions where Otjiwarongo is located.

Climate change can exacerbate water scarcity through decreased precipitation, increased evaporation rates, and more frequent or prolonged droughts. An abattoir requires a substantial amount of water for cleaning, sanitation, and processing operations, so water scarcity can impact its operations and necessitate efficient water management practices.

Rising temperatures associated with climate change can result in more frequent heatwaves and increased heat stress. Extreme heat can affect both livestock and workers' well-being. Heat stress can impact animal welfare, productivity, and meat quality.

Adequate cooling systems and heat management measures would be crucial to mitigate these impacts.

Increased temperatures may require additional energy for cooling and refrigeration purposes in the abattoir. This can result in higher energy demands and associated costs. Adopting energy-efficient technologies and practices can help reduce energy consumption and mitigate climate impacts.

Climate change can influence disease patterns and vectors. Changes in temperature and rainfall patterns may impact the prevalence and distribution of diseases affecting livestock, such as tick-borne diseases or heat-related ailments. Implementing appropriate disease management and prevention measures becomes vital to maintain livestock health and ensure food safety.

Extreme weather events, such as floods or storms, can disrupt transportation routes and supply chains, impacting the delivery of livestock and other necessary resources to the abattoir. Robust contingency plans and resilient supply chain management can help mitigate the potential disruptions caused by climate-related events.

In response to climate change, government may introduce new regulations or policies to reduce greenhouse gas emissions or promote sustainable practices. The abattoir may need to adapt to new environmental standards or reporting requirements, such as carbon footprint assessments or waste management regulations.

It is important for the proposed abattoir to assess and adapt to potential climate impacts by implementing climate-resilient strategies, resource-efficient technologies, and sustainable practices.

It is proposed that a climate risk assessment specific to the abattoir's location must be done by the proponent to implement climate adaptation and mitigation measures once operational.

9.2.5. Biophysical environment

The assessment examines the existing vegetation types, plant communities, and biodiversity in the project area. It evaluates the potential impacts on flora and fauna, including the loss of habitats, disruption of ecological corridors, and effects on rare or endangered species.

The town is amid a relatively flat plateau, with an elevation of around 1,200 meters above sea level. The biophysical environment of the site and Otjiwarongo at large is characterized by semi-arid savannah, with scattered trees and grassland vegetation.

The NIDA Industrial Park in Otjiwarongo is in a savanna biome, characterized by open grasslands interspersed with scattered trees and shrubs. These woodlands typically consist of acacia species such as Acacia mellifera (blackthorn), Acacia erioloba (camel thorn) and, along with other tree species like Terminalia sericea (silver terminalia) and Combretum spp.

Thornbush savannas are common in the area and are characterized by a mixture of grasses, shrubs, and small trees. Acacia species, such as Acacia mellifera and Acacia nebrownii (umbrella thorn), are often prominent in these vegetation types, along with other thorny shrubs and bushy plants adapted to arid conditions and is prominent in the NIDA Industrial Park grounds and around it.

The vegetation along dry riverbeds, known as "linear oases," exhibits a higher concentration of trees and shrubs compared to the surrounding grasslands. Species such as Ana tree (Faidherbia albida), Leadwood (Combretum imberbe), and various Acacia species can be found in these areas, benefiting from the presence of groundwater or occasional flooding events.

Open grasslands dominate large parts of the landscape surrounding the site and Otjiwarongo. These grasslands feature various species of perennial grasses, including species like Aristida species (three-awn grasses) and Eragrostis species (love grasses), which are adapted to withstand drought and grazing.

In some areas, particularly on rocky or hilly terrain, shrublands dominate the vegetation. These shrublands consist of hardy, low-growing shrubs and bushy plants that can tolerate arid conditions. Species like Euphorbia damarana (damara milk bush) and Zygophyllum stapfii (wild gooseberry) are often found in these shrubland areas.

Picture 10 Black-thorn acacia/Acacia mellifera growing onsite.

Picture 11 Black-thorn acacia/Acacia mellifera growing freely onsite.

Picture 12 Young Combretums growing onsite.

Picture 13 Young Combretums growing onsite.

Due to its proximity to the savannas, woodlands, and dry riverbeds there are diverse birdlife around the site and wider area namely the Lilac-breasted Roller (Coracias caudatus). This colourful bird is a common sight in the area. It is known for its vibrant plumage, featuring shades of blue, green, and lilac.

The Burchell's Starling (Lamprotornis australis), with its glossy black plumage and yellow eyes, this starling species is widespread in Namibia and can be found in Otjiwarongo. It often occurs in flocks and has a melodious song.

The Secretary bird (Sagittarius serpentarius) is a large, terrestrial bird and is an iconic species in the region. It has a distinctive appearance, characterized by its long legs, snake-killing habits, and black crest feathers.

The Pale chanting goshawk (Melierax canorus) is a raptor species commonly found in savanna habitats, the pale chanting goshawk is recognized by its pale gray plumage, reddish eye colour, and melodious vocalizations.

The Red-billed Francolin (Francolinus adspersus) is a ground-dwelling bird and is known for its reddish bill and distinctive call. It is frequently encountered in grassy areas and open woodlands.

The Crimson-breasted Shrike (Laniarius atrococcineus) with its striking crimson and black plumage, this shrike species is a beautiful sight. It is often found perched in prominent positions, from where it hunts insects and small vertebrates.

The African Hoopoe (Upupa africana) is a distinctive bird and has a long, slender bill and a crown of feathers that can be erected into a distinctive "crest" shape. It is known for its distinctive "hoop-hoop-hoop" call.

The White-backed Vulture (Gyps africanus) is a large scavenging bird, the white-backed vulture is an important part of the ecosystem. It can be seen soaring in the skies or congregating around carcasses.

Otjiwarongo and the central-northern region, offers a rich diversity of reptiles due to its varied habitats and arid conditions. The common reptiles commonly found in the immediate vicinity of the site and Otjiwarongo at large are the Puff Adder (Bitis arietans).

This venomous snake species is found throughout Namibia, including the Otjiwarongo area. It is known for its well-camouflaged pattern and the hissing sound it makes when threatened.

The Cape Cobra (Naja nivea) are venomous snakes that can be found in various habitats, including the savannas and semi-arid regions around Otjiwarongo. They have distinctive hoods and can display a range of colours from yellow to brown.

The Spotted Thick-toed Gecko (Pachydactylus maculatus) is a small gecko species which is nocturnal and well-adapted to arid environments. It has a spotted pattern on its back and can be found in rocky areas and crevices.

The Namaqua Chameleon (Chamaeleo namaquensis) are known for their ability to change colour and their unique physical adaptations. The Namaqua chameleon can be found in the arid regions of Namibia, including around Otjiwarongo.

The Angulate Tortoise (Chersina angulata) are commonly found in the savanna and semi-arid regions of Namibia, including the Otjiwarongo area. They have a distinct angular shell and are well-adapted to survive in arid conditions.

Large wild animals such as the Plains Zebra (Equus quagga) is an iconic striped equids and can be seen in savanna and grassland areas around Otjiwarongo. They are known for their social behaviour and often form large herds on private farms.

Otjiwarongo is known for its cheetah conservation efforts, and there are various cheetah conservation projects and reserves in the area that house the Cheetah (Acinonyx jubatus). Cheetahs are the fastest land animals and are known for their slender bodies and distinctive coat patterns.

The Greater Kudu (Tragelaphus strepsiceros) is a large antelope and can be found in woodlands and savannas near Otjiwarongo on private farms. Males have impressive, spiralled horns, and both males and females have striking vertical white stripes on their sides.

The Oryx (Oryx gazella) also known as gemsbok, these desert-adapted antelopes can be found in arid and semi-arid regions near Otjiwarongo. They are known for their long, straight horns and striking black and white facial markings.

The Warthog (Phacochoerus africanus) are common in the region and are known for their distinctive facial warts and tusks. They are often seen foraging on the ground and are adaptable to various habitats.

Cattle, sheep, and goats are domesticated and kept on commercial farms around Otjiwarongo and Otjiwarongo Townland plots leased to residents.

The NIDA Industrial Park is cordoned off and secured with precast fencing with security fencing on top to keep out people as well as wild roaming animals.

9.2.6. Cultural and Heritage Resources

The assessment may include the identification and evaluation of cultural or historical resources, archaeological sites, or areas of cultural significance that could be affected by the project.

Otjiwarongo, holds historical significance in the context of the country's colonial and independence struggles.

During the late 19th and early 20th centuries, Namibia was under German colonial rule. Otjiwarongo was established as a mission station in 1892 by the Rhenish Mission Society. It served as a hub for German colonial administration and mission work in the surrounding areas.

Otjiwarongo and its surroundings were directly impacted by the tragic events of the Herero and Nama genocide, which took place between 1904 and 1908. The German colonial forces carried out brutal campaigns against the Herero and Nama peoples, resulting in the loss of thousands of lives and profound cultural and social consequences.

During the 20th century, Namibia underwent a struggle for independence from South African administration. Otjiwarongo served as a centre for resistance and activism against apartheid and colonial rule. It was a site of organizing and support for the Namibian liberation movements, including the South-West Africa People's Organization (SWAPO).

The region surrounding Otjiwarongo is renowned for its wildlife and conservation efforts. Several national parks and reserves, such as Etosha National Park and Waterberg Plateau Park, were established to protect Namibia's natural heritage. These protected areas contribute to the preservation of diverse ecosystems and serve as important tourist attractions.

The NIDA Industrial Park is a Brownfield area which house different industries before and after Independence. As such the likelihood of unearthing heritage artefacts are slim however if any are to be found during the excavations for foundations for the abattoir, work should be stopped, and the Heritage Council of Namibia informed of the finds.

9.2.7. Development and Urbanization

Over the years, Otjiwarongo has experienced significant development and urbanization. It has grown from a small mission station to a thriving town with infrastructure, businesses, and services. The historical development of Otjiwarongo reflects the broader processes of urbanization and socio-economic change in Namibia.

The town's growth and infrastructure development have aimed to support the needs of its residents, promote economic activities, and cater to the increasing number of visitors to the area.

Otjiwarongo has seen the development of modern infrastructure to support its growing population and economic activities. This includes the construction of paved roads, bridges, and utility networks, such as electricity, water supply, and telecommunications.

The town has witnessed the expansion of residential areas to accommodate its increasing population. New housing developments, both formal and informal, have been established to provide housing options for residents.

Otjiwarongo serves as a commercial and business hub for the surrounding constituencies and region. It has developed various commercial centres, shopping malls, and markets to cater to the needs of residents and visitors. These establishments house a range of businesses, including retail stores, restaurants, banks, and service providers.

The town has seen the establishment and expansion of educational institutions, including primary schools, secondary schools, and vocational training centres. Additionally, healthcare facilities such as clinics, hospitals, and medical centres have been developed to provide healthcare services to the local population.

The town has experienced industrial growth and economic development. Otjiwarongo is known for its meat processing and agricultural industries. These industries contribute to employment opportunities and economic growth in the area.

Otjiwarongo serves as a gateway to popular tourist destinations in Namibia, such as Etosha National Park. Consequently, the town has developed tourism infrastructure, including accommodations, lodges, guesthouses, and camping facilities, to cater to the needs of tourists visiting the region.

Development in Otjiwarongo includes the establishment of social and recreational facilities. These may include sports stadiums, community centres, parks, recreational areas, and entertainment venues, providing opportunities for leisure, sports, and cultural activities.

9.2.7. Infrastructure and Built Environment

This aspect evaluates the potential impacts on existing infrastructure, such as roads, buildings, utilities, and services, that may be affected by the project or require modifications to accommodate it.

Otjiwarongo is well-connected by road and serves as a major transportation hub in the region. The town is situated along the B1 highway, which is a major route connecting northern and southern Namibia. It is also well-connected to other towns and cities through a network of paved roads. The town has bus station and taxi services for local and regional transportation.

Picture 14 Turnoff from the B1 road onto the D2430 road leads to the project site

Otjiwarongo has essential utility services in place, including electricity, water supply, and telecommunications. Electricity is provided by the national power utility company via the Central North Regional Electricity Distributor (CENORED), and most residential and commercial areas have access to reliable electricity. Water supply is managed by the local municipality and supplemented by boreholes and water treatment facilities.

Telecommunication services, including landline and mobile networks, are available in the town.

Picture 15 Electricity supply with CENORED infrastructure to site

Otjiwarongo has a range of housing options to accommodate its growing population. The town features various residential areas, including formal housing developments, suburban neighbourhoods, and informal settlements. Housing styles can vary from traditional structures to modern houses, depending on the area.

The town has commercial centres and business districts that provide a range of goods and services. These centres house retail stores, supermarkets, banks, pharmacies, restaurants, and other businesses. The main commercial area is in the town centre and along major roads.

The town has healthcare facilities to cater to the medical needs of its residents. These include clinics, a state hospital, private medical centres, and pharmacies. Medical services cover general healthcare, emergency care, specialized treatments, and access to medication.

Otjiwarongo has a well-developed education system. The town is home to several primary schools, secondary schools, and vocational training centres. These institutions provide education and skills training to students in the area.

Otjiwarongo offers recreational and cultural facilities for residents and visitors. These may include sports stadiums, community centres, parks, recreational areas, museums, and cultural centres. These facilities promote community engagement, leisure activities, and cultural events.

As a gateway to popular tourist destinations, Otjiwarongo has tourism infrastructure to cater to visitors. The town has a range of accommodations, including lodges, guesthouses,

camping sites, and hotels. These establishments provide services and facilities for tourists exploring the region's natural attractions and wildlife.

These aspects of infrastructure and the built environment contribute to the functionality, convenience, and liveability of Otjiwarongo. The town's development and investment in these areas aim to meet the needs of residents, support economic activities, and enhance the overall quality of life in the community.

9.2. Land Ownership and Use

The proposed land for the factory falls within the Otjiwarongo Townlands and owned by the Namibia Industrial Development Agency (NIDA). The property earmarked for the proposed factory is on an existing Industrial Park, and it was previously used for industrial related activities and more famously a Cement Plant. The project surrounding areas are owned by the Otjiwarongo Municipality and on long terms leases with private individuals and entities.

Picture 16 Disused and stripped infrastructure-workshops on portions of the NIDA Industrial Park

9.3. Neighbouring land use and character

The current closest neighbours are Namib Green Processing Pty Ltd located 143 metres away to the West on Portion 2. They have envisaged to put up a feed mill and biochar manufacturing plant but, this project has not taken off yet.

The second closest current neighbour are located 380 metres away to the North are a small holding of subsistence farmers.

The third closest neighbour is the Otjiwarongo Airport which are located 765 metres to the West across the B1 highway.

The fourth and last closest neighbour is the Whale Rock Cement plant located 1,46 kilometres to the Northwest of the proposed site.

These are the only neighbours found to be near the proposed project area. The rest of the surrounding land is rich with biodiversity and undisturbed.

Picture 17 Closest receptors/next door neighbours to the Proposed Abattoir

9.4. Socio-Economic Environment of Otjiwarongo

Otjiwarongo serves as an important hub for commercial and agricultural activities in the region. The town's economy is largely based on agriculture and livestock farming, with the production of beef and dairy products being the mainstay of the local economy.

The Otjikoto Gold Mine located approximately 70km north of Otjiwarongo and owned and operated by B2Gold Corp has contributed immensely to the socio-economic upliftment of Otjiwarongo and in terms of employment and spin off industries.

In addition to agriculture, the town has several small-scale industries, including manufacturing, construction, and retail. The retail sector is particularly important, with numerous shops and markets catering to both residents and visitors.

The town is also an important transport hub, with a major highway the B1 passing through the town that connects it to other parts of the country. As a result, the town has become an important centre for logistics and transportation, with several businesses and warehouses located in the area.

In terms of infrastructure, the town has a relatively well-developed network of roads and telecommunications, with access to high-speed internet and mobile phone networks. The town also has a small airport that serves domestic flights to other parts of Namibia.

The population of Otjiwarongo is relatively diverse, with people from different ethnic and linguistic backgrounds living in the area. The town has a mix of traditional and modern lifestyles, with many residents practicing traditional agricultural practices while also engaging in modern commercial activities.

Overall, the socio-economic environment of Otjiwarongo is characterized by a mix of traditional and modern economic activities, with a strong focus on agriculture and livestock farming.

The town's infrastructure and transport links make it an important centre for logistics and transportation in the region, while its diverse population adds to its cultural richness.

10. Public Participation

Public involvement is an essential part of any environmental assessment process. Interested and Affected Parties (IAPs) include any person or organization that will be directly or indirectly involved and/or affected by the proposed activity.

To commence with the Public Participation of the Stakeholder Engagement Process, four adverts were placed in two prominent daily newspapers for three consecutive weeks on the following dates.

- The Villager – Wednesday 05 April 2023, Page 3
- New Era Advert -Wednesday 12 April 2023, Page 3
- The Villager – Wednesday 12 April 2023, Page 12
- New Era Advert – Wednesday 19 April 2023, Page 3

A comprehensive Background Information Document (BID) document was prepared for Interested and Affected Parties (I&AP's) and we, asked I&APs to register as such and request BID documents from Wednesday 05 April 2023.

The aims of this BID document were as follow:

- To inform the potential Interested and affected parties (IAPs) or stakeholders about the proposed activity.
- To inform the IAPs on how to be involved in the ESA process and provide information on the activity.
- To invite all parties to register as IAPs on the Environmental Assessment database; and
- To provide all IAPs with an opportunity to raise their comments or issues related to the proposed activity.

We also communicated that we needed inputs and concerns communicated to us before the Friday 12 May 2023 on the BID Document.

The Stakeholders Meeting was held on Saturday 22 April 2023 at 09h00 AM at the Orwetoveni Community Town Hall in Otjiwarongo and sixteen (16) members of the public pitched up and were engaged and provided with the BID document.

Mr. Iipinge Ndelimona from the EIA Tracking and Monitoring in Namibia at the Namibian Environment and Wildlife Society requested to be registered as an Interested and Affected Party (I&AP) and requested a BID document was emailed a copy on the same day of 8 May 2023. No comments was received from this I&AP.

There were no comments received from the public during this period up to 30 May 2023

Picture 18 Public participation registration

Picture 19 Attendees scrutinising the BID document.

Picture 20 Attendees listening to the presentation.

10.1. Concerns and support raised.

Most of the community members in attendance supported the initiative as people are hungry for employment and most voiced their opinions in support of the proposed abattoir in the hope of finding employment.

There were two attendees from the Muslim faith community residing in Otjiwarongo, representing their faith-based community and, their concern was that they cannot obtain

meat slaughtered to the Halal requirements in Otjiwarongo and they, have resorted to paying exorbitant amounts to suppliers in Windhoek to supply them with Halal meat.

They implored the proponent to appoint a Halal slaughterer just as Meatco does at their abattoir in Windhoek so that they can get locally supplied meat. This was considered and will be proposed to the proponent in the social component of the EMP as this is an added value stream and socio-economic improvement of the status quo.

One community member was concerned about waste management and her concern was that the unemployed youth in the community might encroach on the abattoir premises to scavenge for scraps and where the abattoir will dispose its waste products.

We responded by informing her that there is a perimeter pre-cast fence around the property, and it will be improved with added security features, a roving security guard 24/7 on duty and surveillance cameras to keep intruders out. In addition, waste will be handled onsite so that minimal biological waste is disposed of at the Municipal effluent ponds and no waste will be disposed of in or near communities or unsanctioned sites or areas that might pose a health risk to residents.

ATTENDANCE REGISTER

MEETING:… … Proposed Nuverah Abattoir Stakeholders Meeting/Public Participation

DATE:……….Saturday, April 22, 2023 @ 09h00……………………….

VENUE: Orwetoveni Community Town Hall, Otjiwarongo, Namibia

Full NAME	Company & Designation	Email & Telephone	SIGNATURE
CHARMAINE UAULENI	COMMUNITY MEMBER	0813247070	Chuleni
Eleterius Haraseb	Community (Electrician)	0812875320	Eharaseb
Quenteline Gomes	Community	0817419646	Gomes
Gregory Ngapurue	community	0813067905	Ngapurue
Moven Likuwa	community	0814886939	[illegible]
Brenda Ochurus	Comunity membe	0812327863	Ochurus
Helen Tsames	Comminity memb	0812875863	Hgames

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Picture 21 Attendance Register of Public Participation

Full NAME	Company & Designation	Email & Telephone	SIGNATURE
Mr Ameen			
Khalid	Hom Auto	Jadeow mikaj oo7@out.com	
AMeen	N.A.C.L.	aminrondu@gmail.com	
Marvin Tjikongo	NIDA	marvin.tjikongo@nida.com.na	
Salomon Katire	Community	0812320055	Katire
ADRaf Moses	Sone groot	0816592015	
Chris Rangzunda	Sonnegroot		
Thys Awa-Eiseb	Ott. Meat	0813012441	
Moses Namiseb	Meatgroot	0814638104 ~~081/30/2~~	Namiseb

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Picture 22 Attendance Register of Public Participation

11. Concluding Remarks

In compliance to the Environmental Management Act (No. 7 of 2007), it was necessary to apply to the Environmental Commissioner for the Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.

It is our expert opinion that the proposed activity will not have a significant negative impact on the immediate and surrounding environment or next-door neighbours. Additionally, no objections were received during the public participation process.

Thus, without hesitation, we recommend that an Environmental Clearance Certificate (ECC) should be issued for.

The Construction of infrastructure and operation of an Abattoir on Portion 1 of Portion 15 NIDA Industrial Park, Otjiwarongo Townlands, Otjozondjupa Region, Namibia.

We hope and trust this submission meets your approval and should there be any queries please to hesitate to contact us for clarifications.

……..

Mr. Theo Uvanga
Quintessential Trading and Consultancy
Environmental Assessment Practitioner (EAP)
PO Box 2112, Swakopmund, Postcode 13001
Email: quintessentialtrading@gmail.com
Tel: +264814815077

12. Environmental Management Plan (EMP)

The process which was followed in compiling the EMP follows the Environmental Management Act 7 of 2007 (and accompanying Environmental Impact Regulations Government Notice (GN) 29 and 30, Government Gazette (GG) 4878, 6/2/2012.

The purpose of this EMP is to formulate mitigation measures that are binding on all contractors involved during the construction, decommissioning and operational phases by the abattoir owners/operators.

The point of departure for this EMP is to take a pro-active route by addressing potential problems BEFORE they occur. This must limit corrective measures required during the construction and operational phases of the development. Additional mitigation will be included throughout the project's various phases, as required and if necessary. This EMP deals with the following phases as detailed below:

12.1. Planning and design phase

The EMP offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development. Pro-active environmental measures minimise the chance of impacts taking place during any construction or decommissioning phase and operational phase.

12.2. Construction phase

The bulk of the impacts during this phase will have immediate effect (e.g., noise and dust pollution). If the site is monitored on a continual basis during the construction phases, it is possible to identify these impacts as they occur.

These impacts will then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from the developer.

12.3. The Operational phase

By taking pro-active measures during the operational phase, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

12.4. The Closure and Rehabilitation phase

By taking pro-active measures during the planned and unplanned closure phase, potential environmental impacts emanating during the closure (includes rehabilitation) phase will be minimized.

12.1. Planning and Design Stage EMP

There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g., this EMP) during the planning and design phase, the necessary corrective action can be taken to further limit potential impacts.

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Approval	• License to operate	• There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g., this EMP) during the planning and design phase, the necessary corrective action can be taken to further limit potential impacts.	Proponent	Once-off
General	• Various	• There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g., this EMP) during the planning and design phase, the necessary corrective action can be taken to further limit potential impacts.	Proponent Contractors HSEO	Once-off
Appointment and Duties of HSEO	• Construction and Operations activities	• The developer/abattoir owner must provide all contractors with a copy of the EMP.	Proponent	Once-off or as required
		• The priority of the HSEO is to maintain the integrity of the development conditions outlined in the EMP	HSEO	Continuous
		• The HSEO must form part of the project management team and attend all relevant project meetings.	HSEO	Continuous
		• All contractors must ensure that their construction crews attend an environmental briefing and training session presented by the HSEO prior to commencing activities on site.	Principal contractor Contractors HSEO	Once off
Monitoring	• Construction and Operations activities	• Monthly HSEO inspections will take place during construction, operations and during rehabilitation to ensure that objectives are being met.	Contractors HSEO	Continuous

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Appointment and Duties of HSEO for Construction	• Construction activities	• The developer/abattoir owner must appoint an HSEO for Construction. This person will be required to monitor the situation with a direct hands-on approach and ensure compliance and co-operation of all personnel. He/she must be fluent in the languages of the employees.	Contractor	Once-off
EMP	• Construction activities	• This EMP must is binding to all contractors and must be included in tender documentation for construction contracts.	Proponent Contractors HSEO	Once-off
Environmental incidents	• Soil, air and water	• All contractors must take corrective action to mitigate an incident appropriate to the nature and scale of the incident and must also rehabilitate any residual environmental damage caused by the incident or by the mitigation measures themselves. • Major environmental incidents must be reported to the relevant authorities in accordance with the provisions of the Environmental Management Act 7 of 2007 (and accompanying regulations Government Notice (GN) 29 and 30, Government Gazette (GG) 4878, 6/2/2012;	Contractors HSEO	Continuous
Occupational Health and safety	• Injury of death	• All contractors must ensure that they have received occupational health and safety training. • All contractors are to operate within the construction regulations of the Labour Act 11 of 2007 and the No. 156 Labour Act, 1992: Regulations relating to the health and safety Of Employees at work. • All contractors are to comply with the Labour Act 11 of 2007 and the No. 156 Labour Act, 1992: Regulations relating to the health and safety Of Employees at work	Proponent Contractors HSEO	Continuous
Drainage lines	• Water	• All construction activities must remain within the boundaries of the development area, as demarcated at the start of construction. • There must be no vehicular access to the drainage lines outside the development area.	Proponent Contractors HSEO	Once off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Erosion sedimentation and flooding	• Soil erosion • Downstream siltation	• If possible, construction activities must be scheduled for the dry winter months to decrease the risk of erosion during heavy thunderstorms. • No construction activities may occur within any drainage lines.	Contractor HSEO	Continuous
Services	• Soil and water	• Any new services system must be designed according to the minimum requirements of Otjiwarongo Municipality and relevant by-laws.	Proponent Contractors HSEO	Design phase
Housekeeping	• Health and safety	• Clean source of drinking water is to be planned and designed for. • Measures must be in place to ensure this water does not become contaminated. • Depending on the volume of water abstracted from the onsite borehole such use will require a water use licence, which must be applied for from the Ministry of Agriculture, Water and Land Reform (MAWLR) – Department of Water Affairs.	Contractors HSEO	Design phase
Handling of waste	• Soil and water	• Strategies are to be devised and implemented to ensure that by-products do not become a nuisance. • Purification, recycling of liquid effluent and alternative use of the effluent must be investigated.	Proponent Contractors HSEO	Design phase, continuous
		• Handling of solid manure is preferred to handling of liquid manure. This ensures that water usage and effluent generation is kept to a minimum.		
		• Concrete slatted concrete flooring is recommended, and in some instances required for effective manure handling and removal.		
		• Management and design of flush tanks on 'manure removal systems' must be mindful of potential impact to the environment and its resources. • Operation of and the condition of the equipment used for manure extraction must be controlled and managed to ensure no contamination of outside resources is possible.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Disease control	• Health and Safety • Hygiene and sanitation	• The abattoir must have emergency plans to deal with disease outbreaks. • This includes the design and planning for isolation pens and mass disposal areas.	Proponent Contractors HSEO	Once-off
		The design of lay-out of the abattoir must consider: • The proximity of water sources that can be polluted by the flow-off from the unit. • Availability of sufficient water encourages proper cleaning. • Effective methods of manure handling to reduce the risk of disease. • The management and control of potential disease transfer from visiting farmers, sales representatives, and delivery vehicles.	Proponent Contractors HSEO	Design phase, continuous
		• The design must consider which ventilation systems (natural or mechanical) will be best suited to the operation, considering possible air contamination of the animals, manure, and feed.		
		• The control of bacteria must be considered in the design of the unit lay-out for example, the breeding units and grower units must be on different sites.		
		• Staff must be regularly trained in procedures pertaining to containment of disease outbreaks and destruction and disposal of diseased animals, hygiene in the working environment, and the regulations that must be complied with in national health legislation.		
Environmental incidents	• Water contamination	• At least 1 monitoring borehole must be drilled on the downstream slope of the site to monitor potential groundwater contamination. If a suitable available borehole is present for monitoring purposes, drilling will not be required. • Monthly samples must be analysed for levels of Copper, Zinc, Faecal Coliforms, Conductivity, pH, free and saline Ammonia, Nitrates and Nitrites, and Ortho phosphates.		Immediately and thereafter bi-monthly

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Site security	• Theft and unauthorised access	• The security fence must be planned for and erected prior to any other construction activities on the site.	Proponent Contractors	Once-off
Sense of place	• Visual pollution	• The planning of construction activities for the abattoir (construction site) must endeavour to minimise the visual impact on adjacent landowners.		Once-off
		• The construction camp must preferably be positioned where it will not visually impact on adjacent landowners.		Once-off
Planning	• Future expansion	• When planning the premises, careful consideration must be given to the design to allow space for future expansion.		Once-off
Disease control	• Health and Safety • Hygiene and sanitation	• Pits and tanks into which blood is received must be outside the slaughter floor. They may be located beneath the slaughter floor.		Once-off
		• The equipment that comes in direct contact with the meat to be plastic and resin, high quality galvanised steel or rust resistant metal. • Copper, all its alloys, aluminium, cadmium, painted surfaces, enamel, porcelain and lead may not be used (except lead may be used in dairy solder in an amount not exceeding 5 per cent).		Once-off

12.2. Construction Phase EMP

Abattoir activities have the potential to affect the environment in many ways. They can differ widely in terms of their mode of operation and location, and key issues are likely to vary from site to site. Therefore, it is recommended that the user obtain expert advice on detailed technical issues. The issues arising for all environmental receptors will change over time as the project moves from construction through to operation and future modifications to process and facilities. Proponents and site operators should therefore consider the impacts arising from construction, short-term and long-term operation.

Potential impacts are discussed here in broad terms only as their nature and intensity will depend on the physical characteristics of the project and the composition of any polluting materials. This EIA of the proposed abattoir activities have taken these factors into account in assessing potential impacts on the environment.

This is the phase where excavations and earthworks will be done and then engineering services such as water, electricity, sewerage, roads will be installed at Portion 1 of the NIDA Industrial Park, followed by the construction of the abattoir and its supporting facilities.The mitigations measures proposed herein must be implemented and managed continuously during the construction phase.

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
General	• Housekeeping • Cross contamination • Process flow • Land and visual pollution	• Prior to establishment of any construction crew camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, and other infrastructure for approval by the HSEO.	Proponent HSEO	Once-off
		• On completion of the construction works, the Contractor shall clear away and remove from the site all construction paint, surplus materials, foundations, plumbing and other fixtures, rubbish, and temporary works of every kind. • Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement.		Once-off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
General	• Land pollution • Soil pollution • Compaction of soil by rubble • Air pollution • Injury to workers and the public	• All persons employed by the Contractor, or his subcontractors shall abide by the requirements of the general environmental protection specifications in the EMP. • Any employees of the Contractor or his subcontractors found to be in breach of any of the EMP may be ordered by the HSEO to leave the site forthwith. The order may be given orally and then in writing. • Confirmation of an oral order will be given as soon as practicable but lack of confirmation in writing shall not be a cause for the offender to remain on site. • No extension of time will be granted for any delay or impediment to the Contractor brought about by a person ordered to leave the site.	Contractor HSEO	Once-off
		• Rubble must be removed from the construction, decommissioning and rehabilitation sites frequently and disposed of at a licensed landfill site.	Proponent Contractors HSEO	Once-off
		• All process areas must possess drain outlets. Humps must be constructed at all doorways to prevent the escape of effluent to stormwater drains.	Proponent	Once-off
	• Quality Control	• Abattoir grading systems must be enforced, or alternatively, abattoirs must be designed for their proposed grading +50% of capacity.	Proponent Meat Board of Namibia	Once-off
	• Soil pollution	• All transformers must be bunded. • Waste refrigeration oil must be disposed of through reputable waste contractors and the legal handling thereof must be verified.	Proponent Contractor	Once-off, Continuous

Aspects and hazards	Impacts	Mitigation/Management Action measures (objectives and targets)	Responsible Party	Frequency
Aesthetics	• Land pollution	• The site shall be kept visually and aesthetically pleasing, especially in and around the Contractor camp. • The HSEO shall regularly inspect the site to ensure that it is neat and clean. • Where required the Contractor camp shall be screened by the Contractor to ensure that there is no unacceptable visual intrusion in the area of the site. • Screening can be done by use of shade cloth or corrugated fencing.	Principal contractor Contractors HSE Officers	Daily
Archaeology and heritage	• Destruction of Archaeological sites.	• If any artifact on site is uncovered, work in the immediate vicinity shall be stopped immediately. • Should any archaeological sites be uncovered during construction, their existence shall be reported to the National Heritage Council immediately. • The position of any known sites shall be shown on the final design plans. • Such areas shall be marked as no go areas. • Artifacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. • The permit shall be obtained from the National Heritage Council by a reputed Archaeologist.	Principal contractor Contractors HSE Officers	As required
Site Establishment and sanitation	• Soil pollution • Water pollution	• Site establishment shall take place in an orderly manner and all required amenities shall be installed at Camp sites before the main workforce move onto site.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• The Construction camp shall have the necessary ablution facilities with chemical toilets at commencement of construction activities. • The Contractor shall inform all site staff to make use of supplied ablution facilities and under no circumstances shall indiscriminate sanitary activities be allowed other than in supplied facilities. • Ablution facilities shall be within 100m from workplaces but not closer than 50m from any natural water bodies. • There should be enough toilets available to accommodate the workforce (minimum requirement 1: 20 workers). • Toilets shall be serviced regularly • The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at the Otjiwarongo Municipal dump site • The disposal of waste shall be in accordance with all relevant legislation. • Under no circumstances may solid waste be burnt on site.		
Fauna and Flora	• Intentional or unintentional killing of fauna on site. • Unnecessary removal of flora.	• The areas to be developed are inhibited by open grasslands interspersed with scattered trees and shrubs. These woodlands consists of acacia species such as Acacia mellifera (blackthorn), Acacia erioloba (camel thorn) and, along with other tree species like Terminalia sericea (silver terminalia) and Combretum spp. • Species of fauna found in the areas to be developed are lizards, snakes and birds. No big or	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		small game are encountered with the premises of the NIDA Industrial park. • Special care should be taken not to damage or remove any such species unless absolutely necessary. • Permits for removal must be obtained should such species be affected such as nesting birds. • All shrubs and bush not interfering with the operation of the developments shall be left undisturbed, clearly marked and indicated on the site plan. • The contractor must ensure that no faunal species are disturbed, trapped or killed during the construction phase. • The Contractor and their employees shall not bring any domesticated animals onto the site. • The Contractor shall ensure that the work site be kept clean, tidy and free of rubbish that would attract animals and vermin.		
Occupational Health and Safety	• Health and Safety of employees on site	• The construction phase is expected to present the most challenges from a health and safety point of view. • A clear operating plan should be in place to guide the health and safety requirements during the construction phase. • This plan should guide construction staff in terms of their responsibilities in terms of health and safety during the construction phase. • It should be ensured that construction activities are conducted in such a manner that it does not increase the risk of injury or fatalities of construction staff and that the appropriate	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		measures are in place to prevent any incidents and accidents		
Clearing and Grubbing	• Topsoil • Flora	• The extent of all construction site footprints will be minimised and limited to existing and / or already disturbed areas wherever possible. • The areas needing to be cleared and the degree of clearing required will be determined and demarcated in consultation with the HSEO before clearing begins. • The Contractor shall at all times carefully consider what machinery is appropriate to the task while minimising the extent of environmental damage. • Topsoil shall be cleared of woody vegetation, and specifically exotic vegetation, before ripping and removing. • The topsoil is regarded as the top 300 mm of the soil profile • Topsoil is to be handled twice only – once during clearing and stockpiling & once during rehabilitation • Soil stockpiles shall not be higher than 2.5m or stored for a period longer than one year. • The slopes of soil stockpiles shall not be steeper than 1 vertical to 2.5 horizontal. • No vehicles shall be allowed access onto the stockpiles after they have been placed. • Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material, which may inhibit the later growth of vegetation. • The Contractor shall apply soil conservation measures to the stockpiles to prevent erosion. This can include the use of erosion control fabric.	Principal contractor Contractors HSE Officers	Once-off

		• If at any stage of the clearing operations archaeological artefacts are unearthed or identified, the National Hertiage Council must be contacted immediately to conduct a thorough scientific investigation of the finds.		
Prevention of disease	• Health of workers	• The Contractor shall take all the necessary precautions against the spreading of disease such as Covid-19, flu, TB, etc. • All employees that come onsite must obey health and safety protocols and measures must be put in place. • This can then be used as evidence in court should any claims be instituted against the proponent and or their Contractors. • The workforce shall also be sensitised to the effects of sexually transmitted diseases, especially HIV/AIDS. • General health issues shall be brought under the attention of the site staff and condoms shall be supplied on site.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Site Buildings / Construction Camp	• Visual pollution • Aesthetics • Injury to workers and damage to property	• The planning and design for the Construction Camp must ensure that there is minimal impact on the environment. • The Construction Camp will be placed within an existing disturbed area as far as possible. • The Construction Camp site will be identified by the Contractor in consultation with the HSEO, and negotiated by the Site Manager with the NIDA Industrial Park Manager • All site buildings to be of a container or prefabricated type. No permanent structures will be permitted.	Principal contractor Contractors HSE Officers	Once-off

		• With the decommissioning of the structures all compacted platforms and slab foundations must be ripped and removed. • All buildings will be soundly built and will not pose a danger to personnel. • No fires are allowed outside the Construction Camp. • Adequate and well maintained fire fighting equipment according to the fire hazard strategies must be maintained on site during the construction period (at least two all purpose 12.5 kg extinguishers). • Welding, gas cutting or cutting of metal will only be permitted in a protected area inside the Construction Camp. • The Contractor shall be liable for any costs related to extinguishing fires started by the Contractor's representatives / employees. • Additional penalties for infringements will also be imposed by the HSEO or Site Manager.		
Storm water management	• Hydrology and Storm water • Downstream siltation • Erosion	• It is expected that storm water will be adequately managed during the construction phase. • Storm water will either be directed to the storm water drains or allowed to be absorbed into the soil through the assistance of the gravel distributed especially on the soil surface of the area where infrastructure is located.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily
Natural Drainages	• Blocking and diversion of natural Watercourses • Downstream siltation • Erosion	• Under no circumstances shall the contractor interfere with any watercourses in the vicinity of the site.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• Should deviation of such watercourses be required as part of the contract design specification, the specifications shall be adhered to strictly. • The HSEO shall ensure that all watercourses are adequately protected to prevent downstream siltation due to erosion on site • Rubble from the construction process shall be removed from site and may under no circumstances be dumped into any natural drainage channels. • The normal flow of runoff water must not be impeded, as this will enhance erosion		
Groundwater	• Groundwater pollution	• No impacts are expected on the groundwater of the area during the construction phase due to the nature of activities. • Containment of waste water will be put in place and to prevent runoff	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Access roads to the site	• Impacts on traffic movement • Nuisance traffic • Congestion	• Planning of access routes to the site for construction purposes shall be done in conjunction between the Proponents, Contractors and the Municipality of Otjiwarongo. • During construction, use should be made of existing access routes to construction areas where possible. • Construct approved vehicle turning areas, avoiding selected ecological sensitive areas or species, and have turning area routes approved by the HSEO. • All agreements reached should be documented and no verbal agreements should be made. • Continual use of dirt access roads by heavy machinery and increased transport loads means they will have to be carefully monitored and	Proponent Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		regularly graded as soon as potholes or rutting occurs. • The Contractor shall properly mark all access roads. • Roads not to be used shall be marked with a "NO ENTRY " sign • Temporary access roads must be rehabilitated after usage		
Initial Earthworks and Platforms	• Erosion • Soil pollution	• The construction platform for the Contractor's camp, as well as the platform for the materials storage area must be appropriately planned. • The Contractor shall take appropriate and active measures to prevent erosion resulting from his own works, operations and activities as well as stormwater control measures to the satisfaction of the HSEO or Site Manager. • Restoration costs will be for the contractor's account, should these measures not be reasonably implemented.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily
Excavations, backfilling and trenching	• Dust liberation • Injuries and fatalities • Damage to mobile equipment • Natural resource depletion	• Where at all possible, excavations must not stand open longer than 2 days, and should preferably be opened and closed on the same day. • They should not be permitted to stand open longer than a week under any circumstances. Excavations must be marked with tape to clearly demarcate the area and warn against access. • Excavations must not be undertaken until such time that all required materials / services etc. are available on-site, to facilitate immediate laying of such services or the construction of subsurface infrastructure. • Any such excavations should ideally be undertaken within the confines of an established construction site - i.e. a site that is either protected with a	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		peripheral fence, or a site that has a regular / continual human presence. Failing this, regular daily inspections are essential. • Removed soil is to be used to backfill areas where required (i.e. such as existing and unrehabilitated gravel pits). • Excavated material is to be stockpiled along the trench within the working servitude, unless otherwise authorised. • Deficiency of backfill material will not be made up by excavation within the protected area. • Where backfill material is deficient, it must be made up by importation from an approved borrow pit area. • Excess sand and soil resulting from levelling activities of the work area should be stored in low heaps either on the access road or already disturbed area. • Excess topsoil is to be spread evenly over the area in a manner that blends in with the natural topography. • Once heavy machinery has cleared the bulk of these material stockpiles, the disturbed areas should be levelled and cleared of any foreign material.		
Sand mining	• Resource depletion • Visual pollution	• No sand mining will be allowed within the perimeter of the NIDA Industrial Park or surrounding area. • All sand required for construction activities must be procured from offsite licensed companies in around Otjiwarongo.	HSE Officer	Once-off

Vehicle Parking Area	• Congestion • Soil pollution	• All vehicles and plant will be allocated a dedicated parking area in the camp site. • No storage of plant and vehicles will be allowed outside of the designated area.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Construction Rubble Disposal	• Land pollution • Soil pollution • Compaction of soil by rubble • Air pollution • Injury to workers and the public	• The Contractor shall dispose of all excess material on site in an appropriate manner and then removal to the Municipal dumpsite • All packaging material shall be removed from site and disposed off and not burned on site. • No material shall be left on site that may harm man or animals. • Broken, damaged and unused spares such as glass, nuts, bolts and washers shall be picked up and removed from site. • Surplus concrete may not be dumped indiscriminately on site, but shall be disposed of in designated areas as agreed with the Municipality of Otjiwarongo • Concrete trucks shall not be washed on site after depositing concrete into foundations. • Any spilled concrete shall be cleaned up immediately.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily
Stockpiling, handling and storage of building materials	• Land pollution • Visual pollution • Soil pollution	• Stockpiles and storage yards will be demarcated in areas already disturbed or where they will cause minimal disturbance. • Clearly indicate which activities are to take place in which areas within the site e.g. the mixing of cement, stockpiling of materials etc. Limit these activities to single sites only. • This may not always be possible for example for heaps of topsoil, but should definitely be the case for other building materials.	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• Stockpiles of expensive materials such as cement bags should be such that they can easily be removed from the site over weekends or during rainy weather. • Specific sites should be allocated for construction waste e.g. empty cement bags, discarded planks, etc. • A low temporary fence may be erected around such a site in order to contain the waste and assist the effective removal thereof from the site. • Used cement bags will be placed in wind and spill proof containers as soon as they are empty. The Contractor will not allow closed, open or empty bags to lie around the site. • The Contractor will ensure that all operations that involve the use of cement and concrete are carefully contolled • Concrete mixing may only take place in the construction camp or in agreed specific areas on site. • Concrete may not be mixed directly on the ground. No mixed concrete may be deposited directly onto the ground prior to placing. A board or other suitable platform / surface is to be provided onto which the mixed concrete can be deposited whilst it waits placing • All visible remains of excess concrete will be deposited in a designated area awaiting removal to the Municipal dumpsite.		
Service Area / Wash Bay and storage aras	• Impact on soil	• All vehicle and plant shall be well maintained to ensure that there are no oil or fuel leakages. • All maintenance and repair work will be carried out at the main construction camp within an area	Principal contractor Contractors HSE Officers	Once-off and as necessary. Monitor daily

		designated for this purpose, equipped with necessary pollution containment measures. • Drip trays will be utilised during servicing • The Contractor may only change oil or lubricant at agreed and designated locations, except if there is a breakdown or emergency repair, and then any accidental spillages must be cleaned up / removed immediately. • Drainage from the service area will be channelled into a sump or oil-skimming tank, where it shall be treated to remove old hydrocarbons. • Drainage from the wash bay platform will firstly be channelled into a skimming tank before being released by drain to a sedimentation pond. • Soil contaminated by oil, fuel or chemicals shall be removed, transported and disposed of at a registered Hazardous Waste Disposal Site in Walvisbay or rehabilitated in-situ. • The Contractor shall educate workers on the appropriate methods for workshop maintenance and fuel points to prevent fuel and oil being washed out of containment areas. • Toxins and oil must be recovered from the system at least once a week, and if necessitated more regularly should the HSEO require it. • Toxins and oil recovered must be stored in sealed drums on a covered, bunded area and removed from site either for recycling or disposal at the Walvisbay Hazardous Waste Disposal Site. • All spillage of oil onto concrete surfaces shall be controlled by the use of an accepted absorbent material or saw dust.		

		• Fuels required during construction must be stored in a central depot at the construction camp. This storage area should be located on a slab and be contained within a bund capable of containing at least the volume of one of the containers. • Temporary fuel storage tanks and transfer areas also need to be located on an impervious surface adequately bunded to contain accidental spills. Appropriate run-off containment measures must be in place.		
Claims for damages	• Theft • Reputational damage • Negative publicity	• The HSEO shall keep a photographic record of any damage to areas outside the demarcated site area. • The date, time of damage, type of damage and reason for the damage shall be recorded in full to ensure the responsible party is held liable. • All claims for compensation emanating from damage should be directed to the HSEO for appraisal. • The Contractor shall be held liable for all unnecessary damage to the environment. • A register shall be kept of all complaints from the community. • All claims shall be handled immediately to ensure timeous rectification / payment by the responsible party.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Public Safety	• Theft of equipment on site • Injury and fatalities	• Access to the construction site should be strictly controlled by a security company. • Trespassing on private / commercial properties adjoining the site is forbidden	Contractors HSE Officers	Once-off
Dust pollution	• Land pollution	• The Contractor shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring Communities	Contractors HSE Officers	Once-off and as necessary. Monitor

		• Watering of access roads is recommended, as access roads are normally the greatest cause of dust pollution. • Speed limits can also be installed, especially on private dirt roads leading to the site. • Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor		daily
Air Pollution	• Coughs, wheezing and shortness of breath. • Cardiovascular and respiratory diseases. • Lung cancer. • Strokes. • Exacerbation of asthma.	• Reduce the uneccessry idling of diesel engine exhausts of plant and other vehicles • Wear appropriate PPE, such as the correct type of respiratory protective equipment (RPE) depending on the task. • Reduce exposure to dusts and fibres, such as silica, as well as the fumes and gases emitted by vehicles and machinery explains • Never burn waste materials. • Use low sulphur diesel to power equipment and vehicles • Improve existing equipment by using particulate filters and catalyst converters. • Use water sprays or sprinklers to control some types of dust and stop it spreading. • Use an on-tool extraction to control some types of dust. • Source local materials to avoid the need for them to be transported from far	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Separation Tanks	• Water pollution	• The Contractor shall provide grease and oil separation tanks (if required) at all areas where oil spillage or collection will occur, i.e. workshops, oil storage, vehicle wash areas and fuel points.	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• The Contractor shall provide a method for oil recovery. • Recovered oil shall be collected in weather-proof drums for recycling or disposed of at a registered Waste Disposal site. These drums will be stored on site only on a covered, bunded area. • The Contractor will test effluent discharged from any oil skimming tanks for conformance with relevant effluent standards if requested to do so by the HSEO when pollution is suspected.		
Littering	• Land pollution • Visual pollution	• Littering by the employees of Contractors shall not be allowed under any circumstances. • The HSEO shall monitor the neatness of the work sites as well as the Contractor campsite	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Solid Waste Managment	• Visual pollution • Attracting scavengers	• An adequate number of 'scavenger proof' refuse bins must be provided at the construction sites and at the construction camps. • These bins must be provided with lids and an external closing mechanism to prevent their contents blowing out and must be scavenger-proof to prevent dogs and other animals that may be attracted to the waste. • The Contractor will ensure that all personnel immediately deposit waste in the waste bins provided. • All refuse and solid waste generated at all work sites will be stored in appropriate scavenger proof containment vessels at the relevant site and removed to the main construction camp, where the waste will be sorted and stored within a fenced waste storage area. • All waste must be transported in an appropriate manner	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• The Contactor may not dispose of any waste and / or construction debris by burning, or by burying. • Discard all construction waste at the Municipality of Otjiwarongo or registered waste management facility / landfill site, particularly those wastes or products that could impact on surface or groundwater quality by leaching into or coming into contact with water. • The contractor will maintain 'good housekeeping' practises as to ensure that all work sites and construction camp are kept tidy and litter free.		
Liqued Waste Management	• Soil pollution • Land pollution • Health • Erosion	• The Contractor must take reasonable precautions to prevent the pollution of the ground and / or water resources on and adjacent to the site as a result of their activities • The Contractor may discharge 'clean' silt laden water overland and allow this water to filter into the ground. However, he must ensure that he does not cause erosion as a result of any overland discharge • No natural watercourse is to be used for the cleaning of tools or any other apparatus. This includes for purposes of bathing, or the washing of clothes etc • All washing operations will take place off-site at a location where wastewater can be disposed of in an acceptable manner. • Trucks delivering concrete may not be washed on site. • No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• Adequate ablution facilities are to be provided at each construction site, conveniently located near to work areas to avoid localised pollution from camp sewerage. • All soil contaminated, for example by leaking machines, refuelling spills etc. is to be excavated to the depth of contaminant penetration, placed in 200 litre drums and removed to an appropriate landfill site.		
Hazardous waste and materials	• Soil pollution • Health	• Compliance to local, national and international legislation and management practices with regard to the storage, transport, use and disposal of fuel, chemicals, harmful and hazardous substances and materials will be enforced. • Fuel, chemical, harmful and hazardous waste throughout the site must be stored in appropriate, well maintained containers. • Any accidental chemical / fuel spills to be cleaned up immediately. • Storage of all hazardous material is to be safe, tamper proof and under strict control. • Emergency procedures for dealing with spills or releases of solvents and fuel must be put in place. • The training and education of all personnel on site who will be handling the material about its proper use, handling and disposal must be put in place.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Noise from unattenuated ventilation fans Noise from boilers and other process plant Noise from animals in open holding pens	• Noise pollution • Local residents experience varying levels of stress, • Sleep disturbance or high blood pressure.	• Use quiet power tools and equipment to manage noise pollution. • Where possible, use modern construction equipment that has been designed specifically to produce less noise.	Contractors HSE Officers	Once-off and as necessary. Monitor daily

	• Workers gradual hearing loss	• The Contractor shall ensure that noise levels remain within acceptable limits. This applies especially after working hours and during the night • Schedule work during sociable hours rather than when residents are likely to be sleeping. For example, between 8h00 Am to 17h00 on weekdays and half days on Saturdays. • Also notify local residents of the working hours and keep them updated on the project. • Put acoustic (movable noise) barriers in place to manage the levels of noise pollution. • Machinery and vehicle silencer units are to be maintained in good working order. • Offending machinery and / or vehicles will be banned from use on site until they have been repaired. • Switch off plant when it's not in use. • Ensure employees wear the correct PPE when required to reduce the risk of hearing loss due to excessive noise.		
Water pollution	• Spread of Infectious diseases, like cholera, typhoid fever and other diseases gastroenteritis, diarrhea, vomiting, skin and kidney problems • Clogging of water filters and contamination of drinking water. • High cost to purify drinking water	• Monitor and improve your management and disposal of site waste. Make sure all waste is correctly dealt with to stop it from spreading. • Keep materials such as sand or cement secure. • Materials must be located where there isn't a risk of them being washed into waterways or drains. • Cover up all drains to prevent waste from ending up in the water. • Keep the roads and footpaths to the sites clean at all times. This will prevent silt and other pollutants from running off into any bodies of water.	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• Properly collect and treat any wastewater being produced.		
Fire prevention	• Poor maintenance of firebreak might lead to fires spreading	• No open fires shall be allowed on site under any circumstance or started as a result of activities on site. • Gas and liquid fuel may not be stored in the same storage area. • No open fires for heating or cooking will be permitted on site, unless otherwise agreed and then only in designated areas. • The Contractor shall have operational suitable, tested and approved fire-fighting equipment available on site at all times at site offices, kitchen areas, workshop areas, material stores and any other areas.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Erosion Control	• Dust liberation • Foundations subsidence • Visual pollution	• The Contractor shall protect all areas susceptible to erosion and shall take measures, to the approval of the HSEO. • The Contractor shall not allow erosion to develop on a large scale before effecting repairs and all erosion damage shall be repaired as soon as possible. • Where required, cut-off trenches can be installed to divert substantial runoff • During construction, areas susceptible to erosion must be protected by installing temporary or permanent drainage works and energy dispersion mechanisms and prevent erosion.	Contractors HSE Officers	Once-off and as necessary. Monitor daily
Interaction with Affected Parties	• Relations with next door neighbours • Health and safety of next door neighbours	• The success of any project depends mainly on the good relations with the Municipality of Otjiwarongo and its Communities.	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		• It is therefore required that the HSEO and the Contractor establish good relations with all the affected parties in the immediate vicinity of all construction activities. • All negotiations for any reason shall be between the HSEO, the affected parties and the Contractor. • NO verbal agreements shall be made. All agreements shall be recorded in writing and all parties shall co-sign the documentation. • The affected parties shall always be kept informed about any changes to the construction programme should they be involved. • If the HSEO is not on site the Contractor should keep the affected parties informed. • The contact numbers of the Contractor and the HSEO shall be made available to the affected parties. • This will ensure open channels of communication and prompt response to queries and claims. • All contact with the affected parties shall be courteous at all times. The rights of the affected parties shall be respected at all times		
Infrastructure	• Nuisance to communities • Inconveniencing next door neighbours	• No interruptions other than those negotiated shall be allowed to any essential services. • Damage to infrastructure shall not be tolerated and any damage shall be rectified immediately by the Contractor. • A record of any damage and remedial actions shall be kept on site. • All existing private access roads used for construction purposes, shall be maintained at all times to ensure that the local people have free	Contractors HSE Officers	Once-off and as necessary. Monitor daily

		access to and from their properties. Speed limits shall be enforced in such areas and all drivers shall be sensitized to this effect. • Any possible disruptions to essential services must be kept to a minimum and should be well advertised and communicated to the Municipality of Otjiwarongoand surrounding Communities.		
Traffic impacts	• Injured or fatalities as a result of being struck by moving plant • vehicles or their loads striking people, particularly when reversing • vehicles striking services and obstructions • manufacturers • instructions for safe use being disregarded • inadequate training of drivers and signallers; and • unsafe loading and transportation of materials on vehicles. • Obstruction of adjacent roads • Increased heavy mobile equipment traffic in neighbourhood • lost productivity,	• Drivers of the construction and operational vehicles should be in possession of valid and appropriate driving licenses • Planning and managing vehicle operations on construction sites • Organise construction sites so that vehicles and pedestrians using site routes can move around safely. • The routes need to be suitable for the persons or vehicles using them, in suitable positions and sufficient in number and size • Provision and maintenance of safe workplaces, safe vehicles, safe drivers and safe work practices. • Drivers must not be allowed to operate vehicles and machinery while impaired due to medication, alcohol, drugs and medical conditions. • Selecting and maintaining vehicles; and implementing safe driving and working practices. • Provide car and van parking for the workforce and visitors away from the work area; • Control entry to the work area; and • Plan storage areas so that delivery vehicles do not have to cross the site. • Employers should take steps to make sure that all workers are fit and competent to operate the	Contractors HSE Officers	Once-off and as necessary. Monitor daily

	• added project costs, and • bad public relations with the surrounding communities.	vehicles, machines and attachments they use on site • The need for vehicles to reverse should be avoided where possible as reversing is a major cause of fatal accidents. • Install turning circles so that vehicles can turn without reversing. • Safe loading, hauling and offloading zones must be identified onsite. • Make sure that all drivers and pedestrians know and understand the routes and traffic rules on site. Use standard road signs where appropriate • Provide induction training for drivers, workers and visitors and send instructions out to visitors before their visit. • Install aids for drivers, plant and vehicle marshallers, lighting and pedestrians on site should wear high-visibility clothing		

12.3. Operational Phase EMP

In case the Environmental Commissioner finds that changes to the Project, the Project site or Adverse Impacts of the Project warrant revisions to this EMP, Construction Phase EMP, or Operational Phase EMP, then the Environmental Commissioner may require the proponent to prepare and submit a revised EMP, Construction Phase EMP, or Operational Phase EMP, as the case may be to the MEFT for review and approval.

The requirements for the daily management and execution of the abattoir development are stated in this section to ensure that.

- Work is managed with minimal disturbance and creation of nuisance to surrounding natural and human environment.
- Employees and visitors to the sites do not interfere and negatively impact on the environment and next-door neighbours and the conservation and restoration of this must be prioritised.
- A positive HSE culture must be instilled and always practiced by the proponent, their contractors and employees when working and engaging with the surrounding communities.
- Monitoring will be done through random site inspection.

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Site Management	• Health, Safety and Environment	• The proponent must appoint a designated (competent) person, who will inter alia be responsible for the implementation of the EMP and sound environmental management during the operational phase. • The manager would be a good candidate to fulfil the role of HSE Representative for Operation.	Proponent Operations Manager	Once-off
	• Visual pollution	• A maintenance plan for the development must be developed regarding maintaining buildings and perimeter fencing etc. to ensure that they do not deteriorate and become aesthetically unpleasant.	Proponent Operations Manager	Developed and reviewed whenever. abattoir re-apply for its licences

	• Waste generation and disposal	• Environmental accountability must be included in any purchase contracts, thereby controlling activities to be undertaken.	Proponent Operations Manager	Once-off, monitor bi-annually
	• Legal Compliance • Sanctions and penalties	• Activities on the site must be in line with the current environmental legislation. • To this end, all applicable legislation must be identified and documented with reference to the abattoir's activities and environmental impacts.	Proponent Operations Manager	Once-off and as necessary. Monitor monthly

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Lack of enforcement	• Manpower support	• Employ qualified and competent teams and manpower to implement all the practical environmental conservation measures as proposed in this EMP. • Manage the programme i.e., coordinating with an environmental consultant. • Implement necessary prevention or best practice method in the event of poor environmental quality.	Operations Manager HSEO	Once-off
Positioning of security lights	• Light pollution	• Placement of security lights should be directed to glow in a downward direction to avoid light pollution and glare onto nearby communities and properties. • Perimeter lighting area should also be placed in a downward facing manner and motion activated to prevent glare at night. • No flood lights should be allowed to be installed at the for the purposes of illuminating the sites at night.	Operations Manager	Once-off
Visual impact	• Adjustment of terrestrial habitat	• Morning Take 5 talks to be made routine and all employees must be given and undergo induction. • Always determine the route of activities beforehand and restrict all activities to demarcated areas.	Operations Manager	Daily and where required

Sewerage management	• Attraction of pests • Offensive odours • Visual pollution • Nuisance to neighbours • Community complaints	• Only portable flush toilets equipped with French drains/septic tanks will be erected at the abattoir premises. • No foreign object may be flushed down the toilets to prevent damage and maintain integrity of the sewer system and maintain a healthy environment	Operations Manager	Once-off
Solid waste management	• Environmental pollution • Littering	• Implement waste segregation strategies onsite. • Promote positive waste management practices i.e., reduce, reuse, and recycle, and only the remaining waste must be sent to landfill. • Minimise and eliminate the careless release of waste products into the receiving environment. • Waste removal for offsite disposal such as to the landfill should be through licensed waste removal contractors	Operations Manager	Continuously
Noise generation from abattoir equipment and machinery	• Noise pollution to employees, surrounding area and next-door neighbours	• Near source employees must be provided with appropriate personal protective clothing and equipment such as earplugs and earmuffs where required. • The movement and operation of industrial equipment, meat saws etc will be restricted to daytime operational hours only.	Operations Manager	Continuously
Occupational Health and HIV and AIDS	• Prevalence of HIV might increase due to the developments. • The immigration of mainly single persons to the construction site presents a perfect opportunity for sex workers and for local community members to engage in unsafe,	• HIV/AIDS awareness and prevention, and general hygiene training programmes should be developed and implemented. • The main target group is the staff members, but the public may also be encouraged to attend. • Follow up awareness raising, and education should be conducted at least every six months.	Operations Manager	Continuously

	sex-for-cash sexual relations.			
Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Traffic impacts	• Disruption to traffic flow in the immediate surrounds	• Set up appropriate vehicle movement signage on local roads/intersections surrounding the project site to direct traffic flow in a safe manner. • Whenever feasible, abattoir vehicles should avoid leaving the site at peak traffic periods (07:00 to 08:30 AM, 12:00PM to 14:00PM and (17:30PM to 18:30 PM). • Abattoir vehicles should not be allowed to park off site, except in dedicated parking spaces (off site) as may be agreed upon between the proponent and the local authority. • All necessary reflective and lighting signs should be placed on vehicles to maximize visibility and reduce potential accidents that may have occurred otherwise.	Operations Manager	
Job creation, Skills development and business opportunities	• Positive socio-economic impacts and spinoffs	• Semi-skilled and unskilled jobs should target local community members. • Prioritise local employment and spend in local business were reasonably possible. • 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.	Operations Manager	Continuously

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Erosion, sedimentation and flooding • Litter	• Erosion, sedimentation, and flooding • Water pollution • Soil pollution	• The stormwater management system must be regularly monitored and maintained (e.g., check for erosion of soil); especially any discharge and damaged areas must be repaired when required. • No substances other than uncontaminated rainwater may be channelled via the stormwater drainage system	Proponent Operations Manager HSEO	Once-off and as necessary. Monitor daily
		• Litter blocking storm water system and ensure that excess sedimentation of the grassed drainage areas is cleared to prevent blockages.	Proponent Operations Manager	Ongoing
		• If soil compaction occurs – rip compacted areas to improve infiltration, reduce runoff and ease of landscaping. • Areas of high traffic use are to be compacted /paved. Other areas are to be grassed.	Proponent Operations Manager	Ongoing
	• Groundwater quality	• Any damages to open liquid manure channels at the holding pens must be repaired immediately. • Ensure that excess sedimentation, build-up of bedding and feed is cleared timeously to avoid overflow.	Operations Manager	Ongoing

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Erosion, sedimentation and flooding • Litter	• Erosion, sedimentation, and flooding • Water pollution • Soil pollution	• The stormwater management system must be regularly monitored and maintained especially any discharge and damaged areas must be repaired when required. • No substances other than uncontaminated rainwater may be channelled via the stormwater drainage system	Proponent Operations Manager HSEO	Once-off and as necessary. Monitor daily
		• Prevent litter blocking storm water system and ensure that excess sedimentation of the grassed drainage areas is cleared to prevent blockages.	Proponent Operations Manager	Ongoing
		• If soil compaction occurs – rip compacted areas to improve infiltration, reduce runoff and ease of landscaping.	Proponent	Ongoing

		• Areas of high traffic use are to be compacted /paved. Other areas are to be grassed.	Operations Manager	
	• Groundwater quality	• Any damages to open liquid manure channels at the holding pens must be repaired immediately. • Ensure that excess sedimentation, build-up of bedding and feed is cleared timeously to avoid overflow.	Operations Manager	Ongoing
Effluent discharge		• The slurry dam wall should be well lined i.e., impermeable. • Inspect slurry dam walls for signs of leakage and repair/maintain as when necessary. • Remove sludge when build-up is approximately half the total volume of the dam.		
		• During decommissioning and reconstruction of the slurry dam, and for a period of 4 months thereafter during operation of the dam, bi-monthly water samples must be analysed as detailed in the 'PLANING PHASE" above, and results submitted to the relevant authorities.		
		• All French drains are to be monitored and maintained so as not to cause soil or groundwater contamination in accordance with Section 21(1) of the Water Act No 54 of 1956 and its requirements in terms of water supplies for drinking water and for wastewater treatment and discharge.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Water supply, usage, and effluent disposal	• Groundwater contamination • Fresh water depletion/over consumption	• Inspect the site for burst, blocked or leaking water pipes. • Water use management programmes are to be designed and implemented to conserve water.	Operations Manager	Ongoing
		• The abattoir must have an available water supply of at least 900 litres per slaughter unit under pressure and protected against contamination. • The water must be clean, potable, and free of suspended material and substances which could put health at risk. • The water must be subjected to flocculation, filtration, chlorination, or other treatment to ensure that there are no E. Coli organisms present and no more than 100 viable micro-organisms per millilitre are present. • An adequate supply of hot water as stipulated in the Standard and Rules of the Meat Board of Namibia, the Meat Industry Act No 12 of 1981 and the Abattoir Industry Act NO 54 of 1976 section 8: General Regulations RSA Government Notice R.93 of 1977 • The water must also meet any other standards and conditions which the Director: Veterinary Services may lay down	Operations Manager	Daily
		• Minimisation of waste volumes, water conservation and optimum water housekeeping are essential. • A water balance is therefore required to detect water losses. • Water may not be re-circulated without the consent of the Abattoir Manager/Hygiene Officer.	Operations Manager	Daily

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Water supply, usage, and effluent disposal	• Groundwater contamination • Fresh water depletion/over consumption	• Water Abstraction licenses and disposal site permits must make provision for conditions which will force abattoirs to incrementally progress towards predetermined water quality and waste management objectives within specified time frames	MAWF Operations Manager	Ongoing
		• Most abattoirs discharge (after appropriate pre-treatment) to municipal sewers. • Records must be kept for compliance with the municipal by-laws for the effluent transported and discharged at the Municipality of Otjiwarongo Sewerage Treatment and Industrial Effluent Ponds.	Operations Manager Municipality of Otjiwarongo	Daily
		• Drainage of effluent discharging equipment including hand-wash basins, sterilizers and boot washes must not occur across floors in traffic zones	Operations Manager	Daily
		• The management and treatment of wastewater and effluent is a specialised subject and professional advice from consulting engineers is essential.	Operations Manager	When required
		• Water used for general washing must be pressurized. If the cost of pressurising is too high, overhead header tanks to improve water pressure must be used.	Operations Manager	Continuous
		• One system of troughs must be considered, whereby the level is controlled for all troughs through one ballcock regulator on the outside of the lairages. • Subsequent troughs can be gravity fed from the level controlled one. A monitoring system needs to be implemented	Operations Manager	Once-off and continuous
		• All hoses must be fitted with self-closing nozzles to prevent wastage when not in use. Where the hoses are in frequent use, pistol grips must be used, whereas pressure sensitive rubber nozzles must be used in areas on intermittent use. • All flexible hoses used for washing purposes must be in a leak free condition.	Operations Manager	Once-off and continuous

		• Teat-like drinking water dispensers must be used in preference to ballcock regulated drinking troughs in animal lairages. If the teat like-dispensers are impractical, the ballcock regulators must be situated on the outside of the lairages to prevent animals from damaging them.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Sewage services	• Groundwater contamination	• The sewage system must be inspected for leakages on a regular basis and any leakages must be attended to immediately. • French drain system should go through a septic tank system for biodegrading.	Operations Manager	Ongoing
• Waste management	• Soil pollution • Groundwater contamination • Attraction of vermin • Health and safety • Solid and liquid waste generation	• The abattoir must have the facilities to manage its respective solid and liquid waste streams on the premises. • Should they not have these on-site, contractual agreements with external service providers must be in place to ensure that their wastes can be disposed of in a sustainable manner at an appropriate rendering facility. • Subject to compliance with the licensing requirements of the Nature Conservation Amendment Act 5 of 1996 and the Atmospheric Pollution Prevention Ordinance 11 of 1976, abattoir wastes may be disposed of by the following means: o Landfilling o Composting o Anaerobic digestion o Incineration o Special methods e.g., vulture stations (to be negotiated with the responsible authority) o Rendering	Proponent Operations MEFT MAWF Veterinary Services	Continuously
		• Solids traps consisting of three compartments must be installed in all drains (except closed systems) to collect these waste	Operations Manager	Continuously

		products. The Otjiwarongo Municipality must approve the plans for any drainage installations, including solids traps.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Waste management	• Soil pollution • Groundwater contamination • Attraction of vermin • Health and safety • Solid and liquid waste generation	• Operation of and the condition of the equipment used for liquid manure extraction (e.g., Honey suckers) must be controlled and managed to ensure no contamination of outside resources is possible. • Regular inspections and maintenance of the relevant equipment must be enforced.	Operations Manager	Weekly, monitor daily
		• Subject to compliance with the Otjiwarongo Municipality's refuse removal by-laws, the local council or an independent company must undertake disposal of all domestic waste. • The Abattoir must audit this to ensure safe disposal.	Operations Manager	Weekly, monitor daily
		• There must be a full examination of process by-products and wastes to identify options for waste minimisation. • All wastes (e.g., solid animal wastes, liquid animal wastes or domestic wastes) must be classified and rated with a view to determining the appropriate disposal methods	Operations Manager	Continuously
		• Litterbins with tight-fitting lids must be placed at strategic points within the abattoir, to be determined during the initial design phase and implemented during the operational phase.	Operations Manager	Continuously
		• Cold water must be used to clean surfaces soiled with blood (except periodic deep cleaning at the end of the day) as the use of hot water causes congealing of the blood, making cleaning more difficult, and results in unnecessary wastage of water.	Operations Manager	Continuously
		• The use of squeegees on offal trays to remove the paunch contents off the trays is strongly recommended. • The use of sloped continuous sliding trays is advocated as it reduces the water needed for final wash-down.	Operations Manager	Continuously

		• The use of square trolley type trays is not recommended, as they require excessive amounts of water for solids removal.		
		Management improvement must include: • Minimisation of waste generation at source (including maximising the recovery of useful materials), • Seriously curbing the practice of washing solids into drains by using solid traps (which transfers waste solids to the liquid medium), and	Operations Manager	Continuously
		• Subject to municipal consent, solid and grease/fat traps must be installed downstream of effluent sources to separate gross solids and fats from all effluents prior to discharge.	Operations Manager	Once-off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Bovine Spongiform Encephalopathy (BSE)	• Condemned meat • Abattoir shutdown • Reputational damage	• If BSE is detected at a facility, there are only three accepted methods that disinfect the prions that are related to BSE, provided that "Best Practices" are used: ○ Incineration ○ Autoclaving ○ Alkaline Hydrolysis	Operations Manager Veterinary Services	When required
• Atmospheric Pollution	• Nuisance odours • Disturbance of next-door neighbours with foul odours • Attracting vermin and pests	• A minimum buffer distance to the nearest residence or residential area must be at least 500 m downwind of an abattoir and 1000 m for a rendering plant. • This depends on the prevailing winds and may need to be increased, if effective and reliable odour control equipment is not installed.	Operations Manager	Continuously
		• External dustbins must be cleaned at least once a week in a maintenance plan for the abattoir to prevent odours.		
		• All chemical storage areas and chemical-based odour control equipment must be located on impermeable concrete floors with bunding capable of containing 110 percent of any spillage.		Once-off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Atmospheric Pollution	• Nuisance odours • Disturbance of next-door neighbours with foul odours • Attracting vermin and pests	• Ensure that the garbage (household/general waste) is collected on a regular basis to reduce the presence of vermin and flies and reduce odours.	Operations Manager	Continuously
		• Biofiltration must be instituted wherever possible and where required.		
		• Manure must be removed daily from the holding yards, then washing down using low volume high-pressure sprays. This reduces odours and fly-breeding.		Daily
		• During commissioning, odours produced by anaerobic waste treatment ponds must be reduced by: ○ allowing some grease/fat and manure solids to pass through the primary treatment system, establishing a crust of 100 mm thick on the surface. ○ layering of hay on the surface of the anaerobic pond; and ○ using an artificial cover (such as plastic) that breaks down over time and mixes with the fat on the surface. ○ Effluent treatment plants must be adequately designed, operated, and maintained to minimise emission of odours.		Once-off, continuous
	• Nuisance dust • Health and safety	• Fabric filter type dust collectors must be used for dust control. • Surfaces of saleyards, holding pens, unsealed roads and parking areas must be sealed. • Filtered ventilation hoods must service dusty process operations.		Once-off, daily
		• Warehouses must use good housekeeping to alleviate dust generation. • Dry materials, must be handled in such a manner as not to give rise to dust emissions to the atmosphere.		Continuously

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Noise	• Nuisance and disturbance of the peace • Health and Safety	• Erect noise barriers such as screens around noisy equipment and operations. • All ventilation and extractor fans must be noise efficient or fitted with silencers, and all ducts must be lined with sound-absorbent material. • Limit vehicle movement (especially trucks) to and from the site to normal working hours only. • Fit efficient exhaust mufflers to diesel forklift engines, other noisy vehicles, and air-powered tools. • Locate mechanical equipment on mounts designed to isolate structure-borne vibration and noise. Similarly, locate this infrastructure as far as possible away from sensitive receptors. • Reduce the number of animals in the holding pens	Operations Manager	Once-off
		• All activities on the abattoir must abide by the Noise Control Regulations: Local Authorities Act No 23 of 1992, Nature Conservation Amendment Act 5 of 1996 and the Atmospheric Pollution Prevention Ordinance 11 of 1976	Operations Manager	Continuous
• Storm water management	• Water contamination	• Nothing other than uncontaminated rainwater is allowed to enter the storm water system. • Storm water must be kept away from the contaminated areas and directed to the storm water drainage system.	Operations Manager	Continuous
• Recycling	• Positive reuse of waste products	• Recycle manure nutrients for use in crop and pasture production.	Operations Manager	Continuous
• Occupational Health, Safety and training	• Health and Safety • Labour unrest and strikes	• All relevant aspects of the Labour Act 11 of 2007 No. 156 Labour Act, 1992: Regulations relating to the health and safety Of Employees at work are to be implemented	Operations Manager	Continuous
• Training	• Health and Safety • Working relations • Process efficiency	• The proponent must undertake training of employees to make them aware of the EMP for the abattoir. All staff needs to be advised that if they fail in their duties, they are just as liable to	Operations Manager	Ongoing

		prosecution and penalty as is their employer in terms of several bodies of legislation. • Training programmes must contain common elements such as familiarisation with the company environmental policy and commitment to waste prevention, recycling, and raw materials conservation. • Employees must be encouraged to suggest new ideas.		
• Condemned Material	• Spread of animal borne diseases • Health and safety • Reputational damage • Sanctions and penalties from the Meat Board of Namibia	• The proponent and/or manager is responsible for complying with the legal requirements or conditions relating to the safeguarding and disposal of any carcass, part thereof or any edible product which cannot be passed for human or animal consumption e.g., Abattoir Industry Act NO 54 of 1976 section 8: General Regulations	Operations Manager	Ongoing
• Water supply, usage, and effluent disposal	• Compliance • Water management	• All water intakes, whether from mains supplies or other sources, must be metered and all water intakes must be routinely recorded either manually or automatically. • It is recommended that 3 water meters be used, namely for the main water intake, the lairages and process water. • Management must not be content with merely installing water meters but must ensure that the results are obtained and monitored for each process by regular record keeping.	Operations Manager	Once-off, Continuously
• Waste Management	• Water pollution and contamination • Blocked drainage system	• All lairages must be squeegeed and/or dry swept to remove gross solids prior to washdown. • The sweepings must be collected for disposal and must not be flushed to drain.	Operations Manager	Continuously
		• Bleeding troughs must be provided with a drip tray to prevent excessive amounts of blood from entering the drainage system.		

		• Alternatively, a separate drain must be built under the hoof and head removal area, sloped back to the blood trough, so that excess blood can be recollected in the blood trough. • Pipes from the blood trough must be diverted to a container on the outside of the building and must not be connected to the effluent system. Blood must not be dumped informally. • Plastic trays must not be used as bleeding troughs or blood containers. • Suitable acid resistant materials must be used for bleeding trough construction.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Waste Management	• Ground water pollution and contamination • Blocked drainage system	• The use of a squeegee on offal trays to remove the paunch contents is strongly recommended. • The use of any sludge (from septic tanks. etc.) by irrigation or any other method of dispersal with the aim of increasing soil fertility or any other aim should not be allowed. • Paunch contents must not be dumped informally	Operations Manager	Ongoing
Effluent Management	• Ground water pollution and contamination • Vermin and pests' generation • Spread of diseases	• All lairages must be squeegeed and/or dry swept to remove gross solids prior to washdown. This reduces the effluent generation. • The use of drain covers must only be considered as a safety measure and must not be used as a "solids trap". • Effluents from the lairages must not be discharged in municipal sewers unless the local municipality grants permission. • If no municipal sewage connections are available, the discharge of such effluents must be to impermeable lined pits subject to authorisation in terms of the Water Act 54 of 1956. • Discharge to the natural environment is unacceptable	Operations Manager Employees	Continuous, once-off
		• Lairages and holding pens must have well drained manure slabs for kraal manure prior to removal except if manure is removed directly into a vehicle.	Operations Manager	Continuously

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Condemned Material	• Animal borne diseases. • Health and Safety • Sanctions and penalties	• All "dead on arrival" and "dead in pen" animals must be disposed of as condemned material in terms of Abattoir Industry Act NO 54 of 1976 section 8: General Regulations RSA Government Notice R.93 of 1977, and Meat Industry (Amendment) Act (No. 21 of 1992) • No carcass or part thereof that has been condemned may be brought into any part of the abattoir containing edible products. • Condemned carcasses, portions thereof or any edible products in an abattoir, which cannot be passed for human or animal consumption, must be: o portioned and placed in a theft proof container which has been clearly marked "CONDEMNED", in letters must not be less than 10 cm high, or conspicuously marked with a stamp bearing the word "CONDEMNED", using green ink. o kept in a holding area or a room or dedicated chiller provided for the purpose, except if removed on a continuous basis; and o removed from the abattoir at the end of the working day or be secured in a dedicated chiller or freezer at an air temperature of not more than minus 2°C	Operations Manager	Continuously
• Effluent Management	• Soil pollution • Groundwater pollution • Hazardous waste generation	• Solid wastes must be prevented from entering the drainage system. All areas must be dry swept/squeegeed prior to wash-down of floors, walls, etc. • Minimising water use reduces the effluent volume requiring handling and disposal. • Fat, meat, hair, and blood from carcass trimming and hide removal must be dry swept, collected, and passed to suitable solids handling and disposal facilities rather than being flushed to drain.	Operations Manager Employees	Continuous, once-off

		• Where no other options exist, discharge of effluent to the municipal sewage works may be tolerated as per the authorisation of the municipality. • If no other option exists but to discharge to the natural environment, such effluent must then be discharged to impermeable lined evaporation or treatment ponds as authorised under the Water Act 54 of 1956 and its Regulations. • The use of a dual outlet system on blood troughs, i.e., one for trough washes effluent and one for blood must be a design criterion.		Continuous, once-off
		• Wastewater may be considered for irrigation but permission from MEFT and MAWF must be sought. • No irrigation must take place during times of high rainfall. • A sampling point on the pipe system must be available for monitoring purposes. • The pipe must be metered.	Operations Manager	Continuously
		• Mesh baskets are not effective as solids and fat traps. Other approved forms of solid and fat traps must replace these. • Grease and solid traps with suitable grease removal facilities must be approved by the municipality and installed upstream of major collection sumps, to minimise the problem of grease removal from large volumes of effluent or plant items.	Proponent Operations Manager	Once-off
Effluent Management	• Soil pollution • Groundwater pollution • Hazardous waste generation • Health and hygiene	• Effluent streams must be separated as far as possible to facilitate treatment, isolation, or disposal.	Operations Manager Employees	Continuous
		• The use of microbes for the bioremediation of all abattoir effluents and solid wastes must be investigated further. • Vermiculture, where possible, must be implemented to decompose and filter abattoir wastes, including paunch contents and blood. • The use of man-made, lined, wetland or vlei systems to treat the effluent must also be investigated.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Effluent Management	• Soil pollution • Ground water pollution and contamination • Vermin and pests' generation • Spread of diseases • Hazardous waste generation	• Where no other options are available, the use of properly designed septic tanks must be considered to pre-treat the effluent generated as per authorisation of Municipality. • The final flow from the septic tanks must be discharged to a municipal sewer line or septic tank and not to the natural environment	Proponent Operations Manager	Once-off
		• Several affordable physical and chemical treatment processes and systems for the treatment of abattoir waste must be investigated	Operations Manager	Continuously
• Condemned Materials Management	• Hazardous Waste Management • Health and hygiene • Compliance • Animal borne diseases. • Sanctions, penalties, and abattoir closure	• Condemned material must remain under strict control from the time of condemnation until they are disposed of in an acceptable manner. • No person may remove a carcass, part thereof or any edible product that has been detained or condemned from an abattoir, except with the permission of a registered inspector, who is a veterinarian and subject to such conditions as he or she may impose. • Facilities (e.g., separate freezers) must be available in the abattoir for the safekeeping of any carcass, meat, intestines, or animal product that has been condemned by the veterinarian or provisionally detained by a meat inspector.	Operations Manager Veterinarian	Continuously
		• If a carcass, meat, intestines, or animal product in an abattoir has been condemned by the veterinarian it must, be dealt with as follows: o by incineration (burnt to ashes). o by denaturing, once the condemned material has been cut into strips, by spraying with or immersion in a solution of crude phenolic or cresolic acid, or another suitable disinfectant, and burying at a depth of at least 60 cm.	Operations Manager Veterinarian	When required

		○ by processing in an approved sterilisation / rendering plant; or ○ by means of any other method that the Director: Veterinary Public Health may authorise.		
• Condemned Materials Management		• No condemned carcass, meat, intestines, or animal product may be left at the end of a working day in any section of an abattoir meant for edible produce.	Veterinarian	When required
		• If the veterinarian condemns an animal or carcass, meat, offal or animal product, he must provide the proponent, on request, with a certificate describing the condemned product and giving the reasons for condemnation.		On request
	• Hazardous Waste Management • Compliance • Animal borne diseases. • Sanctions, penalties, and abattoir closure	• Sufficient theft, leak proof, lockable containers with tight fitting lids, must be provided to keep and transport condemned material and they must be clearly marked "CONDEMNED". • Containers must also be provided to collect and hold inedible material until disposal. Facilities to collect and hold blood prior to disposal must be provided.	Operations Manager	Continuous

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Rough Offal	• Health and hygiene • Quality control	• The following requirements must be followed for the washing of rough offal: ○ Rough offal must be removed from the dressing room to the offal room directly adjacent and connected thereto, after being passed, where paunches and intestines are separated and emptied of its contents. ○ washed with clean running water; and hung on hooks for cooling and drip drying before and during chilling.	Operations Manager	Continuous
		• Stunning, hoisting and bleeding areas must have facilities for collecting and storing of blood in closed containers prior to removal and disposal.	Operations Manager	Continuous
• General Waste Management	• Waste management • Vermin and pests • Health and hygiene	• Refuse containers must be provided for the collection of general refuse at various points on the premises. • Areas where waste or refuse containers are kept prior to removal must be impervious, curbed, and drained and the containers must be enclosed or fitted with tight fitting lids. • Equipment must be provided for the emptying of rumens and intestines and the ruminal and intestinal content must be removed continuously. • The proponent of the abattoir must implement a Hygiene Management Program/System.	Operations Manager	Continuous

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Sterilising plants	• Health and hygiene • Quality Control • Compliance • Sanctions and penalties	• Premises of a sterilisation plant must be controlled to prevent the entry of unauthorised persons, vehicles, and animals; this includes the following areas: • (i) the "dirty" area, consisting of the rooms or places where material is received, stored, or prepared for sterilisation. The loading opening of the sterilisation apparatus must be in the "dirty" area; and • (ii) the clean area, consisting of the rooms or places in which the material can be sterilised and dried, ground or otherwise prepared, packed, stored, or dispatched. • The clean and "dirty" areas must be physically separated by means of a solid wall and there must be no direct access between the two areas.	Operations Manager	Continuous
	• Health and hygiene • Animal borne diseases. • Quality control • Sanctions and penalties	• The clean area of a sterilisation installation must be always kept in a clean and sanitary condition, be roofed, and surrounded with impermeable/tiled walls and must be provided with a continuous, impermeable floor. • No person may keep any animal, dog, or cat on the premises of a sterilisation installation or allow it to stay there. • All possible steps must be taken to keep the premises of a sterilisation installation free from flies, rodents, and other vermin e.g., fly screens on windows/entrances etc.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Sterilising plants	• Health and hygiene • Quality Control • Compliance • Sanctions and penalties • Communities and socio-economic	• The "dirty" area must meet the following requirements: ○ the entire area must be roofed over and surrounded by walls and must have a continuous floor which drains into the sewage system appropriately. ○ the entrance to any drain must be provided with a grid to prevent the entry of any solids. The drainage systems must also be provided with equipment to prevent the escape of offensive smells. ○ any openings in the abattoir walls, which are on the same level as the floor must be provided with steps so that wastewater and effluent cannot escape from the floor into other areas of the sterilizing facility other than into the drainage system. ○ the finish of the structure of the sterilisation plant must be comparable with that of a modern abattoir. ○ hand-washing facilities in the "dirty" area must be provided with hot and cold running water, soap, disinfectant, and disposable paper towels; and ○ footbaths with disinfectant must be provided at all entrances and exits for the disinfections of boots	Operations Manager	Continuous
		• The floors, walls and equipment of a "dirty" area must be cleaned with hot water and disinfected with a suitable disinfectant every day after the work is completed. • Persons who work in the "dirty" area must: ○ be provided with and must wear distinctive marked overalls and rubber boots. ○ disinfect their hands and boots before leaving the "dirty" area; and ○ remove their dirty protective clothing and boots and wash themselves thoroughly with soap and water before	Operations Manager Employees	Continuous

		leaving the premises. Thus, suitable facilities to enable them to do this must be provided. • No person who works in or enters the "dirty" area may enter the clean area or any section of the abattoir for edible products		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Sterilising plants	• Health and hygiene • Quality Control • Compliance • Sanctions and penalties • Communities and socio-economic	• The premises of a sterilizing plant must be fenced and secured to prevent the entry of unauthorized persons, vehicles, and animals, and must include: ○ unclean areas, comprising the rooms in which material is received, stored, or prepared for sterilizing as well as the entrance to the sterilizing apparatus. ○ clean areas, comprising the rooms in which the sterilized material is dried, milled or otherwise prepared, packed, stored, or dispatched; and ○ A solid wall to separate the unclean and clean areas, and there may be no direct contact between these areas.	Operations Manager	Continuous
• Atmospheric Pollution	• Foul odours • Nuisance • Health and Hygiene • Vermin and pests • Sanctions and penalties • Communities and socio-economic	• The building housing the rendering works must be vented to the atmosphere via a discrete stack to allow retrofitting of odour control equipment. • The stack must be at least 3 m above the building roof ridge, have an efflux velocity not less than 15 m/s, and be fitted with emission sampling provisions.	Operations Manager	Once off
		• The most common odour abatement methods used are condensation and condensate subcooling, followed by incineration of the non-condensable by-products. Alternative odour abatement methods must be investigated e.g. • biofilters, chemical scrubbers, multi-stage acid and alkali scrubbing followed by chlorination and incineration in boilers.	Operations Manager	Once off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Atmospheric Pollution	• Foul odours • Nuisance • Health and Hygiene • Vermin and pests • Sanctions and penalties • Waste management • Communities and socio-economic	• Odour control equipment must be fitted with monitoring equipment with recorders for the monitoring of key parameters. • Good housekeeping and rapid processing is essential to stop odours developing. • Dropped material or spilt tallow must not be left to develop odours. • Bins for holding raw material and rendering products need to be shrouded or covered, and grinding, processing and conveying equipment must be completely enclosed. • Skin curing areas must be connected to the odour control systems. • Storage bins may need to be designed so that they can be cleaned with high pressure hot and/or cold water at least once a day. • A procedure for monitoring odour as well as investigating and resolving complaints must be implemented. • All processed meats that have become tainted or putrid and not removed for rendering within the day of slaughtering must be stored in enclosed containers and frozen as per the regulation standard until they are removed from the premises. • All boilers, steam raising plant and afterburners must use clean fuels free of heavy metals and toxic wastes. • All conveyors and pipe run for waste animal matter transfer operations must be capable of being dismantled for effective cleaning. • Offal and waste animal matter must be received in a fully enclosed building	Operations Manager	Once off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Abattoir Condemned Material Transportation	• Foul odours • Nuisance • Health and Hygiene • Vermin and pests • Sanctions and penalties • Waste management • Communities and socio-economic	• A vehicle used to transport condemned material must meet the following requirements: ○ the freight section must be completely covered and be capable of being locked and sealed. ○ the inside lining must be watertight and made of smooth metal. ○ the floor must form a unit with the bottom of the sides and the door must be made in such a way that the leakage of fluids from the freight section is prevented; and ○ the floor must be provided with an outlet pipe at its lowest point, which can be tightly closed with a screw valve. ○ The freight space of a vehicle, which has transported condemned material, must be effectively cleaned, and disinfected at the end of each day's work in a place specially equipped for the purpose.	Operations Manager	Daily
		• The abattoir must transport their waste to a rendering facility for destruction where this is financially feasible. • An emergency plan for accidental spillage in transit must be provided by the abattoir. The "Duty of Care" principle applies.	Operations Manager	Daily
		• All trailers/tankers must be always licensed and kept roadworthy to minimise the risk of spillage while in transit as per the Hazardous Substances Ordinance (No. 14 of 1974) and the Road Traffic and Transport Act 22 of 1999; (as amended by the Road Traffic and Transport Amendment Act 6 of 2008)	Operations Manager	Yearly

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Other Abattoir Waste Transportation	• Foul odours • Nuisance • Health and Hygiene • Vermin and pests • Sanctions and penalties • Waste management • Communities and socio-economic	A vehicle used for the transport of condemned material may not be used for any other purpose, but after cleaning and disinfection the vehicle may be used for the transport of inedible material. A vehicle may only be used for the transport of condemned material if the: • load space is lockable, theft proof and sealable. • internal surface is leaking proof and constructed of durable material; and • floor is provided at its lowest point with a drainpipe capable of being securely closed by a screw valve. The load space of a vehicle used for transporting material to a sterilizing plant must be cleaned and disinfected to the satisfaction of a registered inspector at the end of each delivery under seal/ permit at a place specifically constructed for the purpose.	Operations Manager	Continuously
• Storage Areas	• Health and hygiene • Vermin and pests • Disease management	Separate rooms must be provided for: • Handling and holding of hides, skins, hair, and inedible material prior to removal. • Handling and holding of skin-on heads and feet; and • A room where paunches and intestines are emptied, washed, and kept. • The abattoir must have a facility where livestock transport vehicles can be sanitized after off-loading.	Operations Manager	Continuously

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Hygiene Management Programme and Evaluation System	• Health and Safety • Hygiene and sanitation • Animal borne diseases. • Quality Control • Quality Assurance • Auditing • Communities and socio-economic	• Provide the Chief Executive Officer with a documented Hygiene Management System (HMS) containing detailed information on control measures or programmes required to monitor identified control points, including the methods of monitoring, or checking these control points, for approval. • Provide relevant records of observations, checks, measurements, or results. • Provide sampling programme for laboratory analyses, as well as names of laboratories to do the required analyses. • Provide written accounts of decisions relating to corrective actions when taken; and • Assess the hygiene status of the abattoir by means of the Hygiene Assessment System (HAS) and provide results to the CEO for verification as frequently as he or she may require.	Proponent Operations Manager	Continuously
• Document Management System	• Health and Safety • Hygiene and sanitation • Animal borne diseases. • Quality Control • Quality Assurance • Auditing	The document management system must provide for: - • The retrieval of documents relating to an identified slaughter batch. • The recording of each slaughter batch containing information regarding date of harvesting, mass, quantities, identification, and destination for carcasses as well as cut meat; and • a documented product recall procedure approved by the CEO.	Proponent Operations Manager	Once-off
• Schematic plan of the abattoir	• Health and Safety • Disease Management • Quality Control	A schematic plan of the abattoir must be available and must indicate: • all the different areas on each level. • all the different rooms in each area identified, indicating the process or operation including the capacities or rates of operation that take place in such rooms. • the flow of the product. • ancillary structures on the premises.	Proponent Operations Manager	Once-off

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Schematic plan of the abattoir	• Health and Safety • Disease Management • Quality Control • Auditing	• the required temperature as well as the capacity of each room where temperature is controlled. • the different ablution facilities for workers in clean and dirty areas as well as the personnel entrances to the different areas. • all entrances to rooms, areas, and building; and • boundaries, indicating entrances and exits to and from premises	Proponent Operations Manager	Continuously
• Flow diagram of slaughter process	• Health and Safety • Disease Management • Quality Control • Auditing • Compliance	A flow diagram of the process must be in place and indicate: • all steps involved in the process, including delays during or between steps, from harvesting, receiving of the animals to placing of the product on the market; and • details and technical data including equipment layout and characteristics, sequence of all steps, technical parameters of operations, flow of products, segregation of clean and dirty areas, hygienic environment of the abattoir, personnel routes and hygienic practices, product storage and distribution procedures.	Proponent Operations Manager	Once-off and reviewed periodically when Change Management occurs
• Potential hazards	• Health and Safety • Disease Management • Quality Control • Auditing • Compliance • Communities and socio-economic	The Proponent must prepare a list of all potential biological, chemical, or physical hazards that may occur at each step of the process, including: • unacceptable contamination or recontamination of a biological, chemical, or physical nature. • unacceptable survival or multiplication of pathogenic micro-organisms; and • unacceptable production or persistence of toxins or other undesirable products of microbial metabolism.	Proponent Operations Manager	Continuously
• Prevention of hazards	• Animal borne diseases outbreak. • Health and Safety	The Proponent must prepare written hygiene control programmes to prevent, eliminate or reduce hazards to: • ensure that control programmes for each hazard is implemented. • establish critical limits for control points.	Proponent Operations Manager	Continuously

	• Hygiene and Sanitation • Quality Control • Quality Assurance • Auditing • Compliance • Communities and socio-economic	• establish a monitoring or checking system for each control point; and, • prepare written corrective actions that must be taken without hesitation when a deviation is observed, and such corrective action must specify, o the persons responsible to implement the corrective action. o the means and action required for each hazard. o the action to be taken about the meat having been processed during the period when the process was out of control; and o that written record of measures taken must be kept.		
• Hygiene Control Programmes	• Hygiene and Sanitation • Quality Control • Quality Assurance • Auditing • Compliance • Communities and socio-economic	The Proponent of the abattoir must implement an HCP for ante-mortem inspection, including control measures to: • ensure that all animals (especially those) which for some reason or other cannot be processed into safe meat are identified and handled humanely and appropriately. • identify animals with diseases and conditions of which symptoms may not be visible during post-mortem meat inspections. • identify animals with highly contagious diseases or diseases controlled under the Animal Health Act, No 1 of 2011 and its Regulations of 2018. • identify animals that pose a high contamination risk, and such as those with septic conditions or those that are excessively soiled; and ensure that injured animals in obvious pain are sent through for emergency slaughter. An HCP for slaughter and dressing, including control measures (CM) to ensure that no contamination of meat and edible products occur from, o the slaughter surfaces. o wind and dust o the contents of any hollow organs. o persons working with edible products; or	Proponent Operations Manager	Continuously

		○ contact with unclean objects. • slaughter and dressing procedures which must limit any contamination to the absolute minimum. • training of all workers in correct slaughter techniques including principles of hygiene practices which must be monitored; and • a programme for the daily checking of carcasses for soiling to provide for regular checking of a representative sample of carcasses throughout the day on a random basis and to determine the levels of contamination of carcasses. • an HCP for meat inspection, in terms of which the supervisory registered meat inspector assisted by the registered veterinarian must monitor meat inspection by means of implementation of written control measures to ensure: ○ that meat inspection is done according to the regulations. ○ the competency of the meat inspectors and meat examiners. ○ the personal hygiene of the meat inspectors and meat examiners. ○ that organs are correlated to the carcasses of origin until inspection is done. ○ the security of detained carcasses and organs. ○ the security of provisionally passed carcasses and organs. ○ the security of the stamp of approval. ○ the security of condemned material; and ○ the implementation of standard operational procedures (SOP's) for: ○ emergency slaughter. ○ preferential slaughter. ○ provisional slaughter. ○ dirty animals; and ○ dropped meat.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Hygiene Control Programmes	• Hygiene and Sanitation • Quality Control • Quality Assurance • Auditing • Compliance • Communities and socio-economic	An HCP for personal hygiene of workers in terms of which: • A general code of conduct, approved by a registered inspector, for personnel and for workers who come into direct contact with meat and edible products, must be available. • a training programme, as well as registers of attendance, for all personnel to apply the principles of the code of conduct must be available; and • records of surveillance and supervision including records of disciplinary action in cases of repetitive misconduct or non-compliance must be available. An HCP for medical fitness of workers in terms of which: • records of initial medical certification that workers are fit to work with meat and edible products, prior to employment, must be available; and • records of daily fitness checks, including corrective actions applied in cases of illness and injury, must be available. • an HCP for sterilizer temperatures and maintenance of sterilizers in terms of which control measures to ensure the continuous availability and accessibility of sterilizers in good working order at temperatures of 82 °C, including registers for daily checks indicating frequency of checks as well as corrective action procedures in cases of non-compliance, must be available. • an HCP for the availability of liquid soap and soap dispensers, toilet paper, and disposable towels, in terms of which control measures to ensure the continuous availability and accessibility of liquid soap and soap dispensers for hand-washing purposes, toilet paper and disposable towels at pre-identified points must be available.	Proponent Operations Manager	Continuously

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Hygiene Control Programmes	• Hygiene and Sanitation • Quality Control • Quality Assurance • Auditing • Compliance • Communities and socio-economic	An HCP for sanitation and continuous cleaning including a cleaning schedule providing: • a list of all the areas to be cleaned. • a list of all the rooms that must be cleaned within every area. • the name of the person responsible for the cleaning of each area, section, or room. • for each room within a particular area, a detailed description of the cleaning of each structure, including: • the frequency of cleaning. • step by step methods of cleaning. • data of the chemicals which are used, such as registration data, safeness, dilutions, application prescriptions. • the correct application of the detergents such as dilution, temperatures, and contact times. • the rinsing off applied chemicals; and • the results to be obtained as an objective of the cleaning programme. • an addendum for each room in which the cleaning of each structure must be described in detail including aspects such as method, frequency, and target results. • for the training of cleaning teams in the execution of these programmes. • for control over the storage of detergents to prevent contamination of edible products. • a detailed description for continuous cleaning on the processing line during processing, which must include: • a list of all the actions in this programme including the cleaning of moving equipment and crates; and • a step-by-step description of each action.	Proponent Operations Manager	Continuously

		• for these programmes to be approved by a registered inspector; and • for laboratory checks as control of affectivity of the cleaning programs to be instituted and documented. An HCP for availability and quality of water in terms of which: • the proponent of the abattoir must account for the source of water supply and the status of such water. • the proponent must be able to demonstrate the water distribution system within the abattoir and provide an updated schematic plan of the water distribution on the premises. • a sampling programme must be followed to ensure that all outlets, including water hoses are checked on a repeated consistent basis within an allotted period, and the sampling procedure must be described; and • the owner is responsible to ensure that water used in the abattoir is potable and that records of microbiological and chemical water test results are available. An HCP for vermin control in terms of which the owner of the abattoir must provide a written control programme for each vermin type , and such programme must include: • schematic drawings indicating the position of bait stations. • a poison register, including specifications for the use of different poisons; and • training programme for persons working with poisons. An HCP for waste disposal, including condemned material, in terms of which: • the proponent of the abattoir must provide a written control programme for the removal of each different category of waste material including general refuse removal; and • security arrangements to prevent condemned material from entering the food chain must be described.		

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
• Hygiene Control Programmes	• Hygiene and Sanitation • Quality Control • Quality Assurance • Auditing • Compliance • Communities and socio-economic	An HCP for in contact wrapping and packing materials in terms of which: • the owner of the abattoir must provide a written control programme addressing the suitability as well as the storage and handling of all in contact wrapping and packing material. • control measures to prevent contamination in storerooms must be provided; and • control measures to prevent contamination of wrapping materials must be provided. An HCP for maintenance, • providing for the proponent of the abattoir to provide a document addressing the routine maintenance of all equipment and structures; and An HCP for thermo control in terms of which: • a map must be provided that indicates the layout of all the chillers, freezers, and processing rooms. • where temperature control of the rooms is required including: - • each temperature-controlled room or area. • the number of the room or area. • the temperature requirement of each room; and • the throughput of each room. • each room must be equipped with a recording thermograph, or equivalent means of monitoring and • recording must be used, that indicates the temperature measurements in the room on a continuous basis. • the graphs or data must provide the actual time and temperature as well as the correct date. • annual calibration and certification to this effect must be available.	Proponent Operations Manager	Continuously

		• records in respect of regular testing of digital thermographs and meters against a certified fluid in glass thermometer, done by the owner, must be available. • placing of the thermo-sensors within rooms must be representative of the temperature in the room. • if a centralized computer system is used for this purpose all the relevant temperatures must be recorded on an ongoing basis at least every 30 minutes. • the temperature status of every room must be checked at least every 12 hours by the owner to ensure maintenance of temperatures and all deviations must be accounted for. • checks by the owner must be recorded on the temperature control records. • any deviations from the required temperature must receive immediate corrective attention. • the hygiene manager must be notified immediately in every case where a temperature breakdown has occurred. • records must be available for inspection by the Meat Board, or any national veterinarian delegated by the Line Ministry. • the hygiene manager must indicate daily control checks by way of signature on the records.		

12.4. Closure and rehabilitation Phase EMP

The operational phase is followed by the closure and rehabilitation phase of a project. This is also a site-specific plan drawn up to ensure that appropriate environmental management practices are put in place during the development and finalisation of the abattoir and to put in place remediation measures of works.

Closure and rehabilitation phase.

- Provide site specific and fit for purpose mitigation measures to finalise construction works, site clean-up, remediation of contaminated sites, waste and construction rubble removal and restoration activities of areas not going to be built-up.
- Reduce and eradicate any long-term liability issues related to the different extensions to the proponent and to NIDA.

The mitigation measures and activities should commence during the construction and operational phase and be finalised at closure and completion of construction activities.

Aspects and hazards	Impacts	Mitigation/Management Action (objectives and targets)	Responsible Party	Frequency
Soil erosion	• Erosion of site	• All topsoil removed during the land servicing and excavations of foundations must be conserved and used in the rehabilitation and close out phase. • No topsoil may be sold. This soil must be kept safe from erosion. • Stockpile area will be covered with gravel during construction operations to prevent erosion. • Gravel will be removed on completion of construction. The topsoil will be used as a defensive wall for the stockpile pad and ramp, to protect the area from prevailing winds and rainwater erosion. • Topsoil and vegetation from the ramp must be used to create a defensive wall along the perimeter of the ramp and stockpile area. The pile should be used as	Contractors HSEO	Continuously

		windbreaks to shield the ramp and stockpile area from the prevailing winds. • Stockpiles should be stabilised by securing with nets or other suitable sheeting material. • The stockpile pad will be re-shaped to remove any steep embankments during the final rehabilitation and closure phase. • After rehabilitation is complete, no topsoil shall be left over		
Rehabilitation of access roads and surrounding site	• Visual pollution	• Any access road or portions thereof, constructed by the proponents shall be removed and or rehabilitated to the satisfaction of the HSEO. Gravel will be removed. • Any gate or fence erected by the proponents which is not required by the landowner, shall be removed and the land restored to the pre-construction state	Contractors HSEO	Once-off
Removal of construction equipment, vehicles, machinery and infrastructure	• Visual pollution • Nuisance Infrastructure	• All construction equipment/vehicles and machinery should be removed immediately from the site at the end of defects liability period. • The removed materials should be transported and kept in safe place for use by the owners and Contractors in other works. • The area should be cleaned and all domestic wastes, debris/waste metals, grease and oils must be cleaned up and disposed of in a manner approved by competent authorities. • There must be a removal of all portable toilets, bins, machinery, and other equipment on site as according to relevant legislation	Principal contractor Contractors HSEO	Once-off
Monitoring	• Visual pollution • Nuisance Infrastructure	• Monthly HSEO inspections will take place during construction and during rehabilitation to ensure that objectives are being met.	Contractors HSEO	Continuously

12.5. Responsibilities of the role players

12.5.1. Developer/abattoir owner

The proponent/abattoir owner has a "duty of care" in terms of Principle 2, Principles of Environmental Management 3 (J) of the Environmental Management Act No 7 of 2007 which states that; a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage and;

Chapter 4 HEALTH, SAFETY AND WELFARE OF EMPLOYEES, PART A RIGHTS AND DUTIES OF EMPLOYERS AND EMPLOYEES Chapter 39 of the of the Labour Act No 11 of 2007 .

This is a generic Duty of Care that is applicable to all forms of environmental impacts and potential impacts and by implication includes the management of waste.

The proponent/abattoir owner remains ultimately responsible for ensuring that the development is implemented according to the requirements of this EMP. Although the proponent appoints specific role players to perform functions on his behalf, he ultimately retains the responsibility. The proponent is responsible for ensuring that sufficient resources (time, financial, human, equipment, etc.) are available to the other role players to efficiently perform their tasks in terms of the EMP.

The proponent is liable for restoring the environment in the event of negligence leading to damage to the environment.The proponent must ensure that the EMP is included in any tender documentation so that contractors who are appointed are bound to the conditions of the EMP.

The proponent must appoint an independent Inspection service provider and/or Health, Safety and Environmental Officer with appropriate background and training during all phases of the development to oversee all the occupational health, safety and environmental aspects.

12.5.2. Contractor

Any contractors, as the proponents agents on site, are bound to the EMP conditions through their contract with the proponent, and is responsible for ensuring that they adheres to all the conditions of the EMP. The contractor must thoroughly familiarise themselves with the EMP requirements before coming onto site and must request clarification on any aspect of these documents, should they be unclear.

The contractor must ensure that they have provided sufficient budget for complying with all EMP conditions at the tender stage. The contractor must comply with all orders (whether verbal or written) given by the HSEO, project manager or site engineer in terms of the EMP.

12.5.3. The abattoir employees

Employees are responsible for ensuring that the EMP is implemented during the operational phase in accordance with the requirements of the EMP. However should they fail, the abattoir owners retain the ultimate responsibility.

12.5.4. Health, Safety and Environmental Officer (HSEO)

The HSEO is appointed by the proponent to enforce compliance and monitor of the implementation of the EMP during any construction and operational phases.

The HSEO must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. The HSEO must attend relevant project meetings, conduct inspections to assess compliance with the EMP and be responsible for providing feedback on potential health, safety and environmental problems associated with the development. In addition, the HSEO is responsible for:

- Liaison with relevant authorities;
- Liaison with contractors regarding environmental management; and
- Undertaking routine monitoring and appointing a competent person/institution to be responsible for specialist monitoring, if necessary.

The HSEO has the right to enter the site and undertake monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the site (e.g. wearing of safety boots and protective head gear).

(a) Liaison with Authorities

The HSEO must be appointed during the planning and design phase and must form part of the project management team.

The HSEO will be responsible for liasing with the Municipality of Otjiwarongo and MEFT. The HSEO must submit environmental audit reports to the authorities before; during and after construction phases (decommissioning and rehabilitation). Audits need to be submitted thereafter at least quarterly.

These audit reports must contain information on the contractor and proponent's levels of compliance with the EMP.The audit report must also include a description of the general state of the site, with specific reference to sensitive areas and areas of noncompliance.

The HSEO is to suggest corrective action measures to eliminate the occurrence of the non-compliance incidents. In order to keep a record of any impacts, an Environmental Log Sheet must be kept on a continual basis.

(b) Liaison with Contractors

The HSEO is responsible for informing the contractors of any decisions that are taken concerning environmental management during the construction phase (decommissioning

and rehabilitation). This would also include informing the contractors of the necessary corrective action to be taken.

12.5.5. Ministry of Enviroment and Tourism (MEFT)-Directorate of Environmental Affairs (DEA)

The MEFT, as a regulatory authority is mandated to oversee the protection of the environment within the boundaries of the Republic of Namibia. As part of this function, MEFT is required to audit the abattoir against the conditions stipulated in the Conditions of Environmental Clearance Certificate and mitigation measures proposed in the EMP.

Auditors will be existing inspectors from MEFT, Meat Board of Namibia and the Ministry of Agriculture Water and Land Reform -Veterinary Services division who are familiar with the operation of abattoirs.

12.6. Implementation of the EMP

All construction activities will be carried out in compliance with the relevant legal requirements. No significant impacts are anticipated for the activities that have been identified and management and mitigation measures are in place for potential risks.

This EMP.

- Has been prepared pursuant to identified aspects and hazards involved in the construction and operation of the Nuverah Prime Investments abattoir. The proponent, their contractors and employees will be required to comply and will be a contractual requirement.

12.6.1. Location of the Environmental Management Plan

The HSEO should ensure that a copy of this EMP is always available on site. This includes any EMP, or other document used to guide the overall management of environmental, health and safety aspects of the entire land servicing and construction developments.

The following are also examples of documents to be kept on site:

- Site Diary
- I & AP Complaints register.
- Environmental incidents register/ Environmental Log Sheet
- Non-conformance Reports.
- Method Statements.
- Material Safety Data Sheets (MSDS).
- Written Corrective Action Instructions.
- Safe disposal certificate for all types of waste disposed of.
- Health, Safety and Environmental Training Records.
- Notification of Emergencies and Incidents.
- Copies of monthly reports
- Minutes of site meeting including discussions on environmental issues

12.6.2. Compliance Assessment

The HSEO should ensure that the requirements contained in this EMP are complied with. Clear records of compliance issues and/or the compliance status with this EMP should be kept for assessment either as part of any environmental audits or performance assessments conducted for the land servicing and construction developments.

Should any issues of non-compliance be identified, these should be rectified immediately, or a clear action plan complied to ensure that the issues are addressed as quickly as possible.

12.6.3. Conclusion

This EMP has a long-term objective to ensure that:

- Environmental management considerations are implemented from the design phase of the project.
- Contractors can and shall include any costs of compliance with this EMP into the tender prices.
- Precautions against environmental damage and claims arising from such damage are taken timeously.
- The completion date of the various contracts is not delayed due to environmental problems with the landowner, communities or Regulatory Authorities arising during the project execution.

This EMP is legally binding because it will form part of the contract between the MEFT, the proponent and any contractor or staff member.

It is crucial for all recommendations made in this EMP to be appropriately implemented on site during construction and operation of the proposed abattoir. Compliance monitoring by an appropriately qualified HSEO will serve as a means of verifying the degree to which the EMP is being implemented on site.

13. APPENDICES

Appendix A: Adverts

PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT

Quintessential Trading and Consultancy hereby give notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to the Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following:

Nuverah Prime Investments CC (the proponent) proposes to establish a Class C abattoir on Portion 1 of Otjiwarongo Portion 15, NIDA Industrial Park, Otjiwarongo, Otjozondjupa Region, Namibia. The property lies 23.79 km to the northeast of Otjiwarongo on the B1 road and can be accessed 10 metres turning right off the B1 before the Otjiwarongo-Otavi Roadblock and, Otjiwarongo and Cheetah Whale Rock Cement turnoff via the D2430 road, with a separate gravel road leading to the property.

Quintessential Trading & Consultancy CC has been appointed as the Environmental Assessment Practitioner to undertake the EIA and, all Interested and Affect Parties (IAP's) are requested to attend a Stakeholder's meeting to be held at the Orwetoveni Community Hall, Otjiwarongo, Date: Saturday 22 April 2023 at 09h00 in the morning.

The Proponent: Nuverah Prime Investments CC
Environmental Assessment Practitioner (EAP):
Quintessential Trading and Consultancy CC

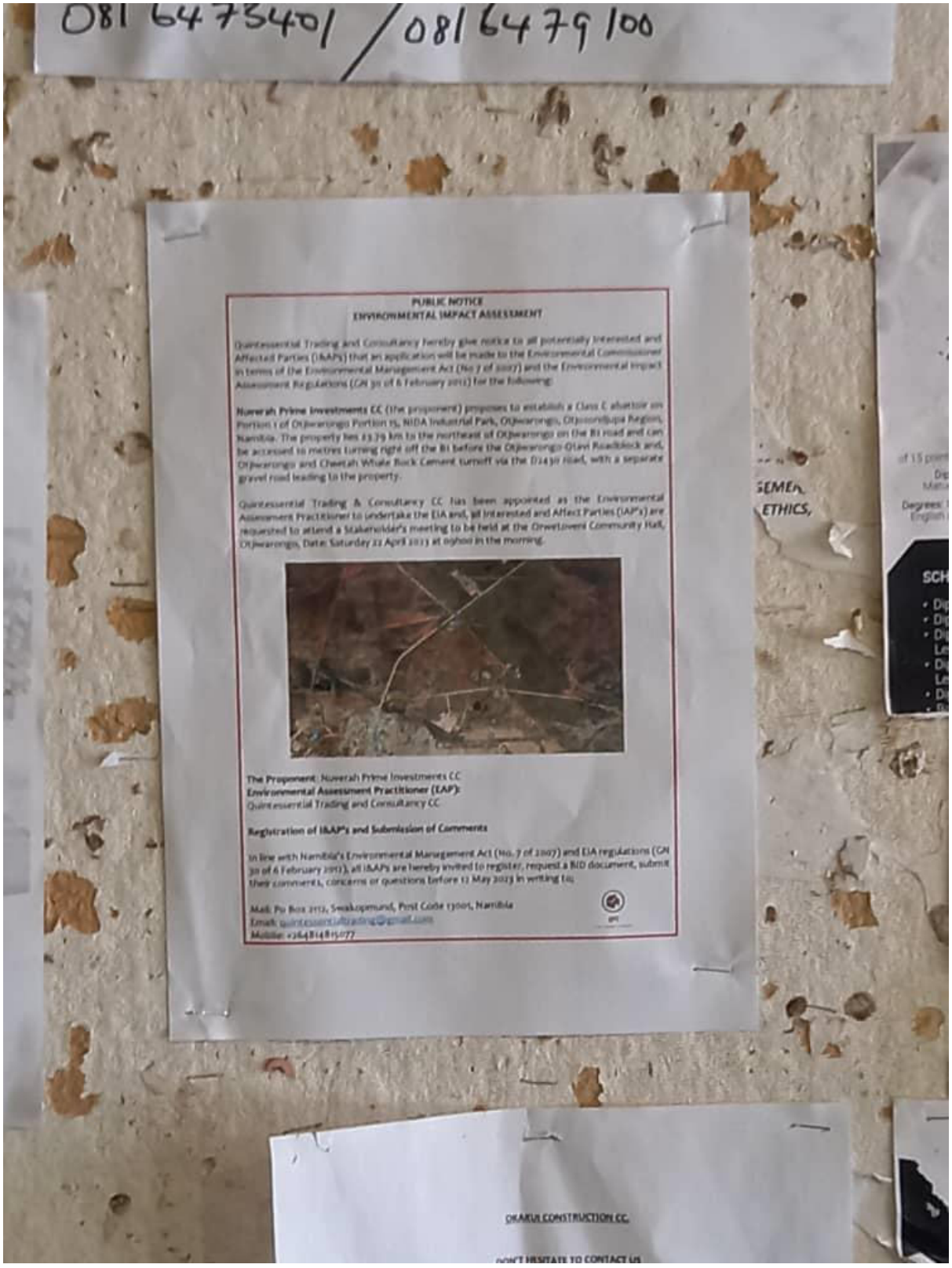
Registration of I&AP's and Submission of Comments

In line with Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012), all I&APs are hereby invited to register, request a BID document, submit their comments, concerns or questions before 12 May 2023 in writing to;

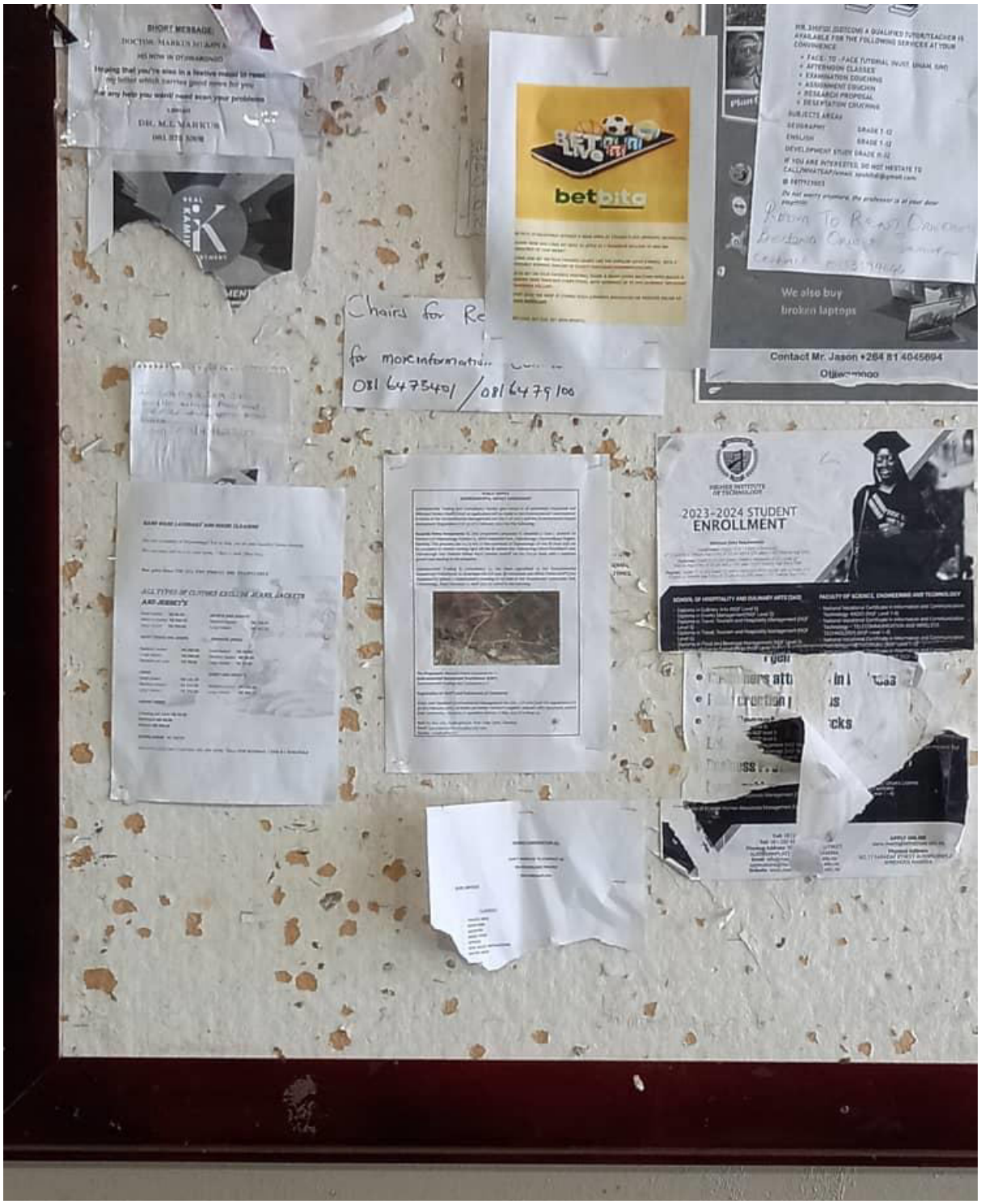
Mail: Po Box 2112, Swakopmund, Post Code 13001, Namibia
Email: quintessentialtrading@gmail.com
Mobile: +264814815077

Picture 23 Advert as used in the Newspapers & Notice Boards

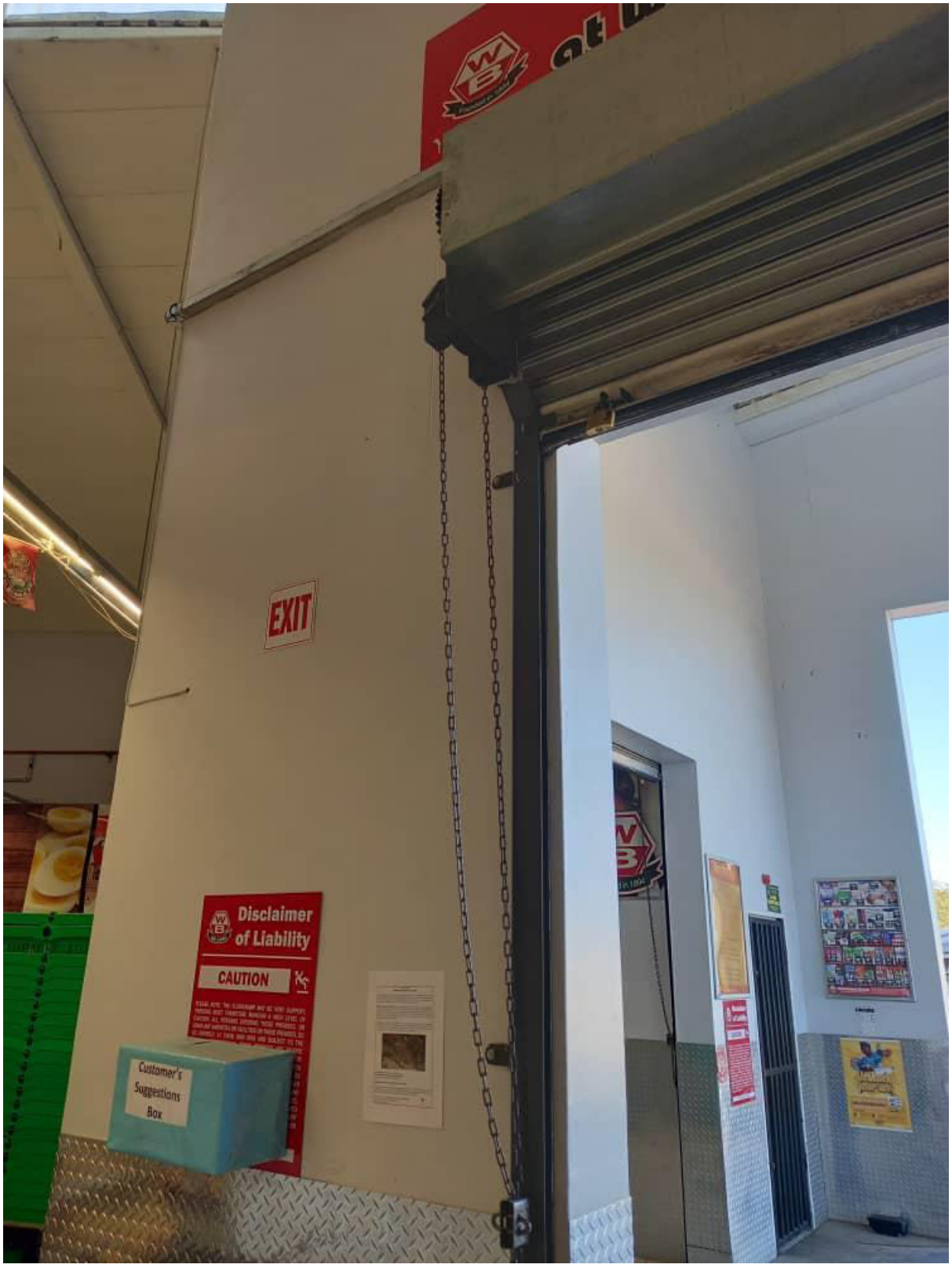
Appendix B: Public Notices



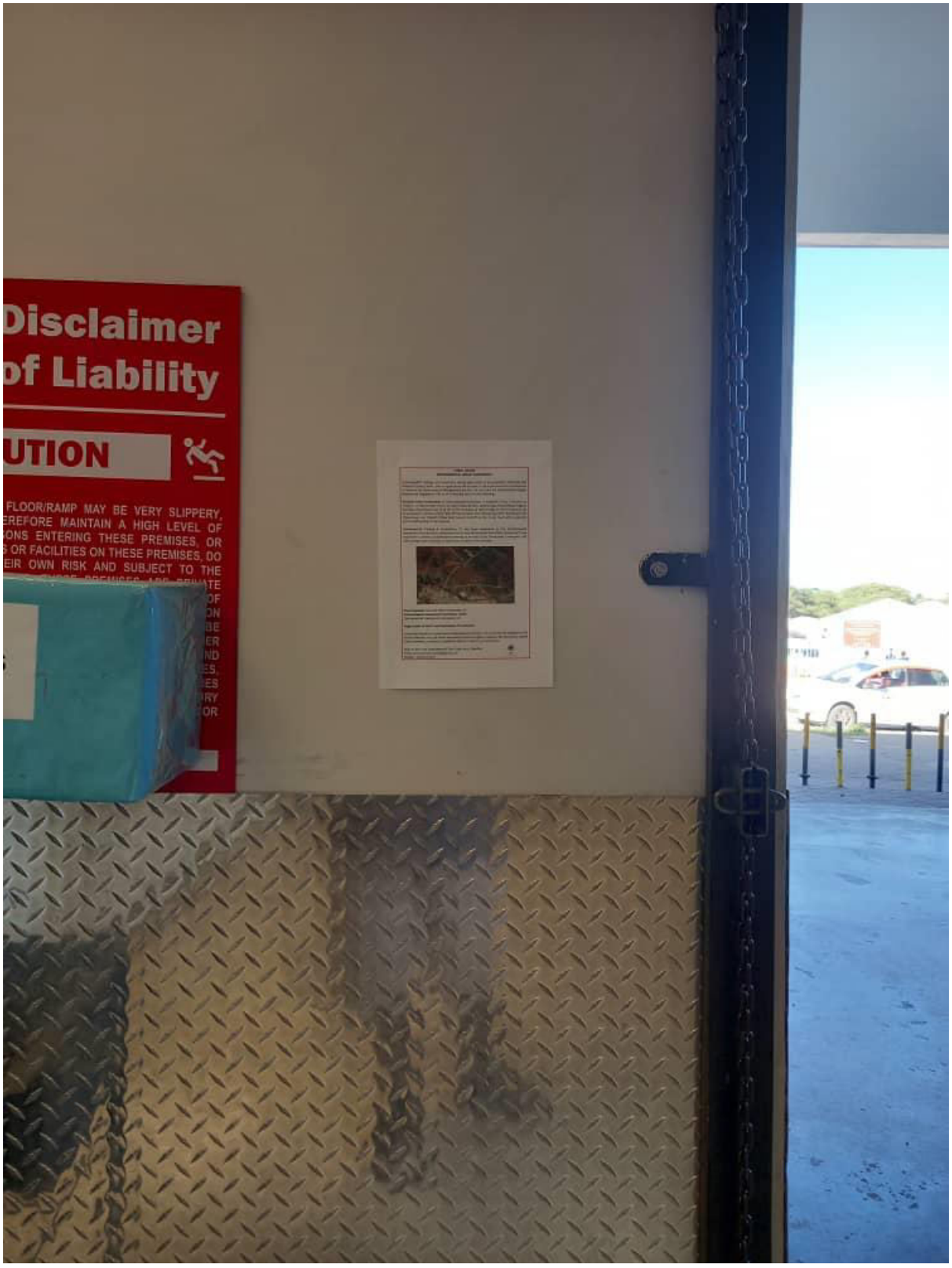
Picture 24 Advert at the Orwetoveni Community Hall Notice Board



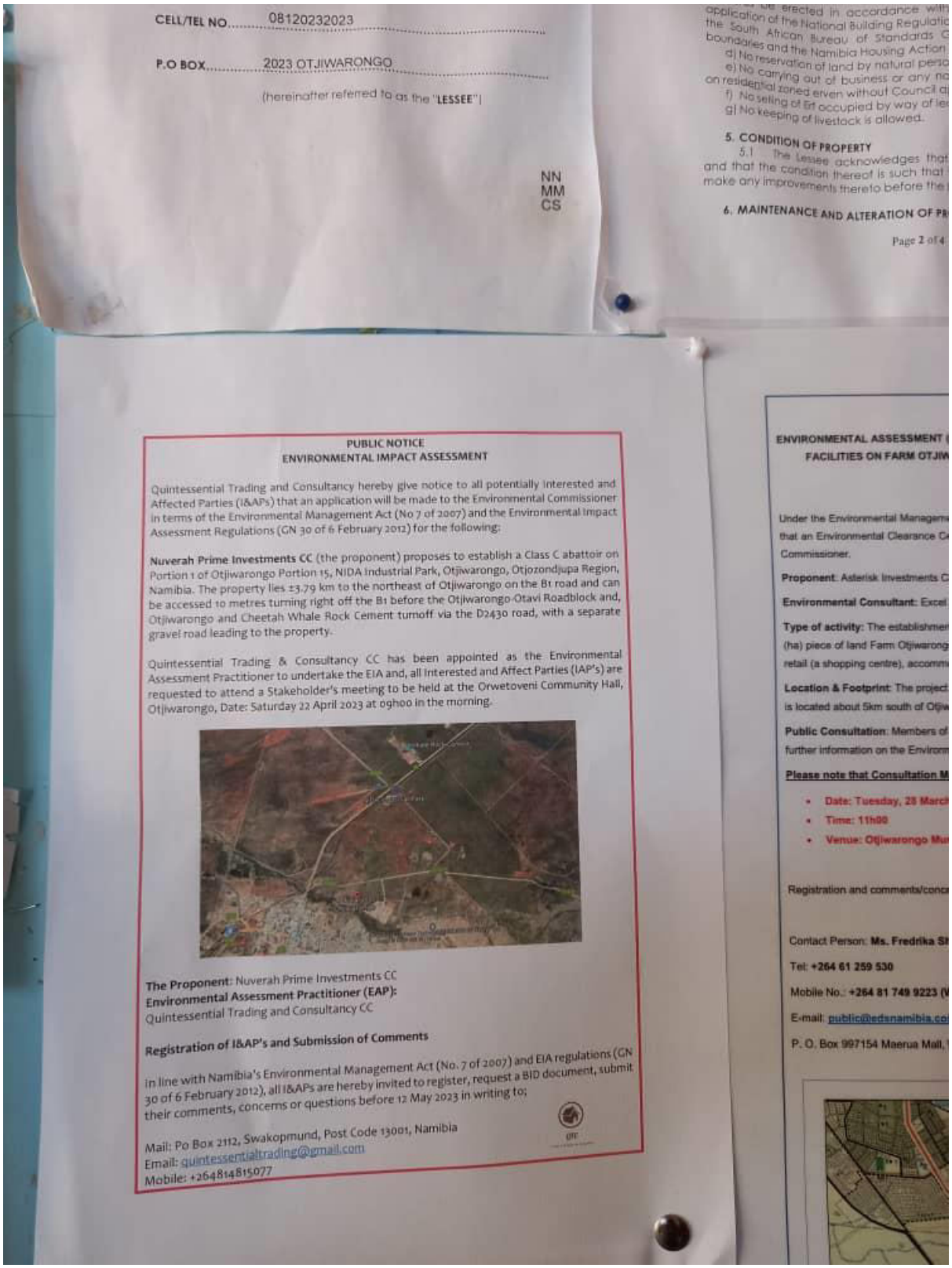
Picture 25 Advert at the Orwetoveni Community Hall Notice Board



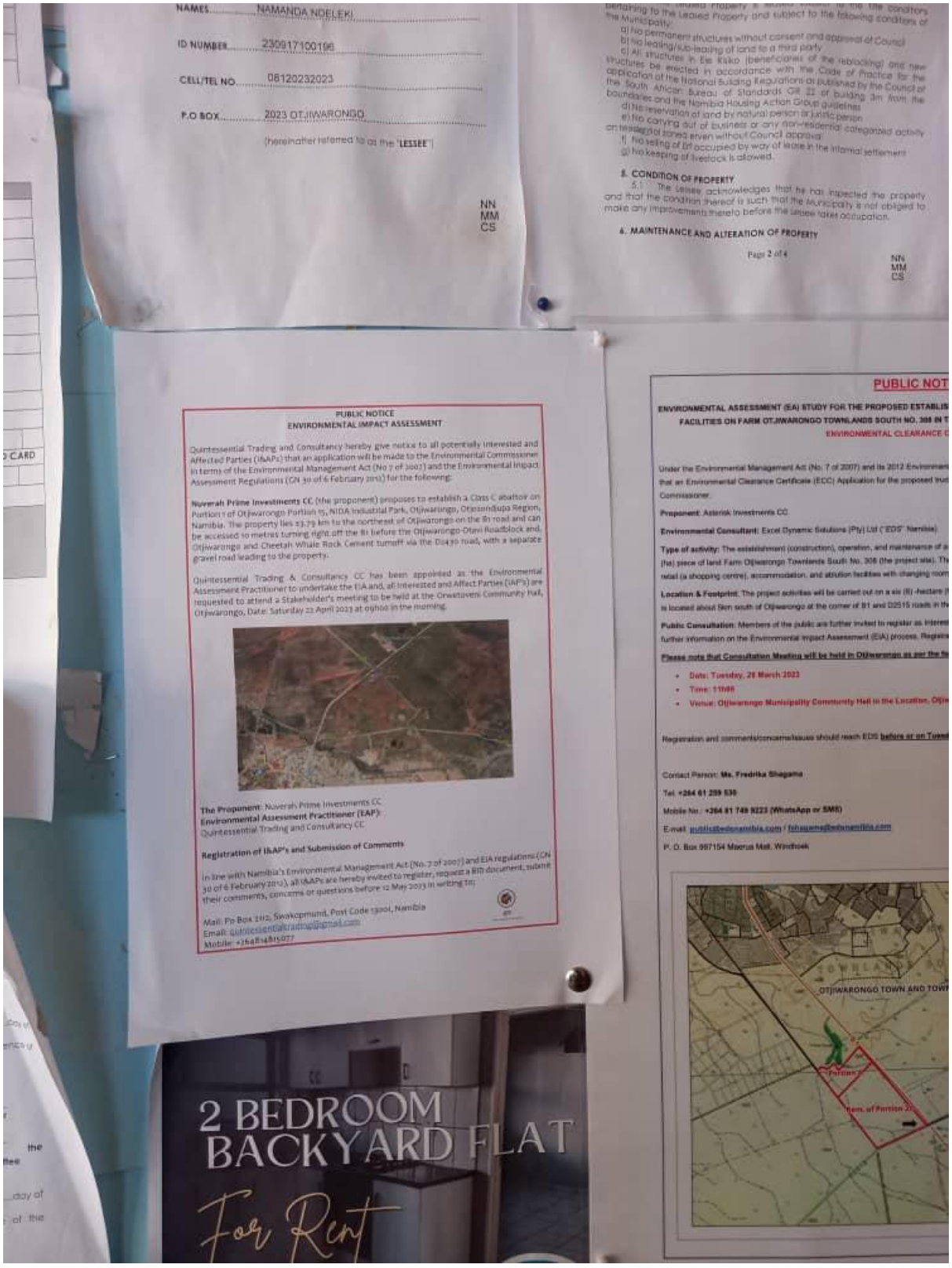
Picture 26 Advert at the Woermann Brock Orwetoveni entrance



Picture 27 Close up of the advert at the Woermann Brock Orwetoveni



Picture 28 Advert at the Municipality of Otjiwarongo notice board



Picture 29 Advert at the Municipality of Otjiwarongo notice board

Appendix C: Newspaper Legal Notices

The Villager Advert – Wednesday 05 April 2023, Page 3

NATIONAL NEWS

Government Could Pocket N$4.6 Billion In Taxes On Lithium

...additional N$609 million in royalties

■ Staff Writer

Government could make northwards of N$4.6 billion in taxes from the recent lithium discoveries.

The analysts at Simonis Storm Securities have observed that, including royalties to government of about N$609 million, the lithium industry could easily surpass diamonds as Namibia's most lucrative mining natural resource.

"In FY2022/23, mid-year estimate figures show that diamond mining companies could pay N$1.6 billion in taxes and N$1.5 billion in royalties. For non-diamond mining companies, taxes paid are estimated at N$576 million and royalties at N$618 million," Simonis Storm said.

The firm said the local lithium industry could be valued at N$13.9 billion, which would constitute 6.7% of the country's GDP, with expectations that lithium mining production will be in full swing from 2025.

"Based on our estimates, lithium revenues could exceed all other commodities combined and could therefore improve the Trade and Current Account balances, and GDP growth rates as well."

Simonis Storm however offered a caveat, noting that Namibia's estimated lithium reserves have grade concentrates far below the global standard of 6%.

CONTINUED ON PG.4

PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT

Quintessential Trading and Consultancy hereby give notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to the Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following:

Nuvesh Prime Investments CC (the proponent) proposes to establish a Class C abattoir on Portion 1 of Otjiwarongo Portion 15, NIDA Industrial Park, Otjiwarongo, Otjozondjupa Region, Namibia. The property lies ±3.79 km to the northeast of Otjiwarongo on the B1 road and can be accessed 10 metres turning right off the B1 before the Otjiwarongo-Otavi Roadblock and, Otjiwarongo and Cheetah Whale Rock Cement turnoff via the D2480 road, with a separate gravel road leading to the property.

Quintessential Trading & Consultancy CC has been appointed as the Environmental Assessment Practitioner to undertake the EIA and, all Interested and Affect Parties (APs) are requested to attend a Stakeholder's meeting to be held at the Onwetsveni Community Hall, Otjiwarongo, Date: Saturday 22 April 2023 at 09h00 in the morning.

The Proponent: Nuvesh Prime Investments CC
Environmental Assessment Practitioner (EAP):
Quintessential Trading and Consultancy CC

Registration of I&AP's and Submission of Comments

In line with Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012), all I&APs are hereby invited to register, request a BID document, submit their comments, concerns or questions before 12 May 2023 in writing to:

Mail: Po Box 2112, Swakopmund, Post Code 13001, Namibia
Email: quintessentialtrading@gmail.com
Mobile: +264814615077

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New Era Advert – Wednesday 12 April 2023, Page 3

Poverty forces youth into sex work

• Ewlan Hamukwa

ONGWEDIVA - Unemployed youths from Oshakati have resorted to trading sex as a means of survival, with the police warning them to find alternative ways to generate income.

A group of young women usually stand at the traffic lights, offering sex in exchange for money in Oshakati's Okandjengedi location. A sex worker who spoke to *New Era* said they have no alternative ways of generating income, therefore, being sex workers is the only way to generate money for survival. In 2020, Oshana governor Elia Irimari estimated his region's unemployment rate at 32%. They said they charge N$100 for two rounds and N$300 for a sleep over. However, depending on the number of men they sleep with on that specific day, they can earn more than that.

They said every night, around 23h00, there is always a queue of men in vehicles who come to buy sex from them.

They stressed that they have clients from all walks of life, including the police, soldiers and taxi drivers. Speaking to this publication, a 28-year-old mother of two said sex work is the only way to make money.

She said sex work is as normal as any other businesses, they are not ashamed and will not stop doing it. On a good night, she said she can make over N$1 000, which she uses to support her two children and pay rent.

Photo: Ewlan Hamukwa

Dangerous profession... Some sex workers at Oshakati said they have no alternative ways of generating income.

Therefore, she decided to join other women in the sex trade. She also said she started abusing alcohol because of the stress she is enduring. Highlighting some of the challenges they endure, the mother of two said, "Some men run away or pay us N$30, while some threaten to kill us if we keep demanding," she said. She added that on most occasions, most clients prefer unprotected sex, and they are promised more money if they have sex without condoms.

Another sex worker, a 30-year-old woman, said she is risking her life by having sex with many different men in exchange for money.

"I pay rent and support my daughter with the money I make through this business," she added. She stated that she always chooses the best men who drive nice cars because they are reliable, trustworthy and pay well.

"We are just making a living. It's better than nothing. It's not easy to get a job nowadays," she added. Speaking to *New Era*, Oshana Police chief Naftali Langavest Sakaria said it is a bit tricky to deal with those who practice sex work in Oshakati. He said there are no specific operations targeting sex workers.

"They should consider doing other businesses – not the sex business," he said.

Sakaria also said it is risky to have sex with different men, and it does not show a good example to other women, especially the younger girls.

"The police will look forward to engaging them and finding a way on how to assist them," he added. - *ehamukwa@nepic.com.na*

LPM councillor labels Otjiwarongo a 'secret' organisation

OTJIWARONGO - Landless People's Movement (LPM) branch secretary at Otjiwarongo, Sebastian Gaiseb has labelled the operations at the Otjiwarongo municipality as that of a 'secret organisation'.

Gaiseb who serves as a local authority councillor and a member of the management committee of that municipality, at a recent media conference alleged the municipality is secretive in its dealings, charging that illegal activities are suspected to be happening there.

"Worse, the institution is so secretive that even me as councillor, I cannot find answers to several concerns affecting this town," he said.

He further alleged that council decisions are made outside the council and only shared with the municipality councillors, particularly on land deals at the town's Extension 12, Extension 13, the Herero Park and Freedom Park residential areas where serviced plots are still on sale.

The LPM councillor went on to accuse the municipality's CEO Moses Maiyayi of running the institution like a secret service organisation, and of allegiance with the four Swapo Party local authority councillors.

Maiyayi in an email response to Nampa reacted to Gaiseb's claims, saying they are unfounded, malicious and a figment of his imagination.

"The claimant's innuendo is also intended to score undeserved cheap political points for his personal gratification," said Maiyayi.

The CEO further explained that as the Otjiwarongo local authority council is established by an Act of Parliament and that of the Local Authorities Act of 1992, councillors and officials should serve with diligence and safeguard the well-being of residents by creating a conducive environment.

"As we are not a military intelligence operation to be secretive of our operations, this institution is a public organisation governed by the rule of law and good corporate governance principles, thus the councillor's allegations carry no relevance in the municipality setup. It is rather his political ploy," concluded Maiyayi. - *Nampa*

Sebastian Gaiseb

Endobo evictees sleeping rough

• Alatia Shikololo

Nearly a year has passed since the eviction of tenants of the Endobo compound in Tsumeb during a protracted ongoing legal battle. However, many of them are still grappling with homelessness and an uncertain future, as they refuse to acknowledge the ownership of the businessman who evicted them.

The evictees said they are yet to secure a place to call home, leaving them in a "state of despair and uncertainty".

For more than five years, the conflict between the Endobo tenants and landlord Christoph Groenewald has been ongoing.

The tenants stopped paying rent in 2017, disputing Groenewald's ownership of the property. However, in September 2022, the High Court ruled in favour of Groenewald, resulting in the eviction of the tenants.

The property was home to about 2 000 tenants, and 80% of these tenants have resorted to camping outside the compound in the bushes. Forty-nine households received plots from the Tsumeb municipality, while about 36 households still live on the property. This includes the committee members who refused to vacate the property and others who are up-to-date with their rental payments.

"I can say that the situation is dire for the majority of us. Many have been left in the dark and have nowhere to go after being evicted from our homes last year. Currently, we are forced to camp in the bushes close to the riverbed with no access to basic facilities like electricity and sanitation. It's a tough situation," explained one of the residents, Johannes Kamati.

He said the matter is not being handled with urgency by the authorities, and they are left to "suffer". "Despite waiting on the municipality to look into the matter, they have been taking so long to provide us with sanitation. Out of all the households affected, only 47 have received plots, while many are still homeless," he said.

Endobo compound, once owned by Tsumeb Corporation Limited (TCL) for housing contract mineworkers, has a complex historical and political background.

After TCL's liquidation in 1998, its assets were taken over by Ongopolo Mining and Processing Limited Company, where the current property owner, Groenewald, served as a property manager.

Despite their eviction, the group has not given up the fight and has sought condonation from the Supreme Court for the late filing of their appeal. On Thursday, the group approached the country's apex court to appeal, and the matter has been postponed to 6 June this year. "The tenants have been evicted unlawfully – and this has put us many lives in a dilemma. We are still standing by the facts that Groenewald doesn't own the property and we are going to fight the eviction in court," said Kamati.

He clarified that the dispute began when Groenewald tried to charge them a deposit of N$750 in addition to their rent amount. Kamati and the other long-term tenants felt this was unfair because they had been living on the property since 2002, and the deposit should only apply to new tenants.

The rental prices range from N$600 to N$1 500. Approached for a comment, Groenewald said the evictees' dilemma and homelessness was brought upon by the "so-called" committee members who have misled them into not paying rent. "These are the same people who are still living on my property and refusing to vacate, and they are the ones who approached the Supreme Court for condonation.

"Despite being given ample time to appeal, they failed to do so. Now, when they appeared in court on Thursday, they came up with excuses, and the matter was postponed to June. It's clear they are just trying to buy time and continue living on my property because they know they don't have a case," said Groenewald.

When asked about the municipality's involvement in the eviction of the tenants, the town's mayor, Matheus Hangula, questioned whether it was the municipality's responsibility to intervene in cases of evictions from private properties.

He said the municipality decided to allocate the evictees a piece of land where they could permanently settle – and that so far, 49 households had been given plots.

However, he noted that some evictees had chosen to camp outside the compound, either because they refused to move to their new plots or because they were not evicted and joined those who were.

"There is a piece of land, called Extension 9, where all the evictees will be permanently relocated – and the servicing of the land will commence in the current financial year," he added. - *alatia.shikololo@nepic.com.na*

PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT

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NATIONAL NEWS

NWR Staff Train

encompasses the changing needs of the 21st century travellers," Dr Naomab said.

"One of these changing needs of the 21st century traveller is the appreciation of excellence in customer service during their experience in Namibia," he added.

This year, the Environment and Tourism Minister reported that international tourist arrivals increased by almost 38% in 2021 compared to 2020.

Dr Naomab explained that ensuring that guests have a memorable experience at key destinations in Namibia depends on the interaction from the start of the journey until the guests have departed.

He said NWR and NUST responded to the need to enhance the skills of NWR employees to improve customer service and culinary skills.

"NUST is befitting in providing these training because it has been at the forefront of making a significant impact on the industry through it's skills, human capital and state of the art infrastructure for both theory and practical training" he said.

The NUST's Associate Dean: School of Commerce and Management Science, Professor Teresia Kaulihowa said about 75 staff members from NWR were trained on customer care service whereas 55 staff members participated and received training on Chef skills through the institution's culinary art programme.

Professor Kaulihowa said another 75 participants have registered for this week's training on customer care which includes staff members from the Ministry.

NWR was represented by the entity's Managing Director, Dr Matthias Ngwangwama who hailed NUST as an international brand as well as a reputable institution, and whereas NWR is a reputable local and international brand.

"Now when you have these two giants really collaborating surely the result is obvious," Ngwangwama said.

He added that training is a never ending thing and that it is a lifelong journey, especially in the tourism industry.

The total number of those who were already trained and those yet to be trained sums up to 205 out of the total 634 NWR staff.

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Likando wants more defence funding

■ Albertina Nakale

NATIONAL Council Swapo member John Likando has asked for more funding to address living conditions in military bases across the country.

Likando said little upgrading and maintenance of military installations inherited from the apartheid regime countrywide have left properties in a dilapidated state.

While motivating the 2023/24 defence budget allocation of N$6.2 billion, Likando said there is a need to maintain aerodromes, harbours and jetties to avoid accidents and comply with international standards.

"The infrastructure of the Ministry of Defence and Veterans' Affairs dates way back prior to independence, and the majority of them has reached (the end of) their life span. Many of them were built with prefabricated materials, which places them in a deplorable state as we speak," Likando indicated.

Furthermore, he said, the government moratorium, which put on hold numerous projects, affected most ministerial capital projects, which has led to a serious strain on accommodation for soldiers.

Likando mentioned that out of the ministry's 14 capital projects, only four are active and funded. These are Mpacha, Karibib, Leopard Valley and the overall countrywide rehabilitation.

"Capital projects need more money under the budget review. We really want to have a force morale and ever-ready response to all-season conditions. In addition to peace operations, NDF assists community lives, distribution of drought relief and flood evacuations. All these emergencies need a motivated force, and they are not budgeted for in most cases but at the service of the country," the Kabbe South councillor argued.

Under the current fiscal year, 2023/24, close to N$180 million has been earmarked for capital projects to upgrade and rehabilitate certain military bases.

This includes N$124 million allocated for Leopards Valley military base, while over N$4 million is earmarked for the Karibib base.

Also, N$4.3 million has been allocated for Mpacha, while a total of N$47.4 million is for the overall rehabilitation of military bases.

According to him, funds allocated to the defence ministry are not enough, given the situation the world finds itself in with the military hostilities in many parts of the world.

"I will not shy away to mention the Russia-Ukraine war, the ongoing instability in Sudan since the toppling of Omar Bashir, as well as the instability in the rest of northern Africa (Mali), Chad, Tunisia and South Sudan). Here, at home, is the ongoing rebellion in the DRC and the Isis presence in Mozambique. World militaries, including our neighbouring countries, are equipping themselves for any eventualities while we sit idle. The pride of the nation depends on the strength of its defence force," Likando remarked.

He specifically emphasised that the defence ministry requires adequate funding for the operations and administration of both the ministry and NDF wings.

The recruitment of cadets and other professional military personnel, including the posting of military attachés at diplomatic missions and organisations, where Namibia is a member, is another reason he said the ministry needs more funding.

Likando also called for more funds aimed at completing ongoing and existing projects, especially the rehabilitation of old inherited infrastructure countrywide and the general modernisation of defence capabilities to meet required standards.

Photo: Nampa

More money... A file photo of Namibia Defence Force members in prayer. National Council Swapo member John Likando has asked for more funding for the defence ministry.

Students blame dean for 'failing' them

■ Festus Hamalwa

ONGWEDIVA – Students at the University of Namibia (Unam) Jose Eduardo dos Santos Engineering Campus, in Ongwediva, have expressed their frustration over their dean, Petrina Johannes, who allegedly failed them.

Students who spoke to this publication said Johannes has failed to manage the campus day-by-day since 2021.

The aggrieved students accuse Johannes of rarely intervening in student issues, claiming she is never hands-on or present in resolving any issues since she became the dean.

In addition, students also highlighted issues of examination timetables being drawn up in a very inconsiderate manner and lecturers bombarding students with heavy workloads at the last minute.

A third-year student at the campus said the calendar is already in April – already past half of the semester – but students have not started school yet due to an absence of lecturers.

"There are modules that have not been taught yet. We are hopelessly stranded, with rising concerns about whether we will even complete our studies this year," said the concerned student, preferring anonymity.

He added that a situation of poor management at the campus has even led some lecturers to resign at an alarmingly fast rate. Approached for comment, Johannes acknowledged a few outstanding modules in the Civil and Mechanical Engineering departments are yet to commence due to the abrupt unavailability of external staff that was initially recruited last year. "However, arrangements have been made to offer these modules in semester two, and we will notify affected students accordingly," she emphasised.

In addition, Johannes said the university has plans to offer two other modules in the Mechanical and Civil Engineering departments in the second semester as well should the plan not materialise.

"We are working within university parameters to ensure students are not unduly impacted during this academic year," she added.

Johannes also confirmed as true that some staff members have left the university, which, she said, is a normal occurrence in any organisation.

"We understand that certain student groups may be more affected by this than others," she added.

However, Johannes pointed out that the university has always acted swiftly to advertise vacant positions with the support of the faculty and institution as a whole.

"At present, there are no approved vacant positions in the school. I am pleased to report that we are in the process of filling all current vacant positions by next semester."

Regarding the issue of examination timetables being set inconsiderately, Johannes said the university timetable is always sent to the head of department for their input before it is released to students.

She stressed that in instances where challenges are experienced, the school has always been open to considering such challenges on a case-by-case basis.

"In this case, students are always informed to follow the amended timetable and not the one on their portal. The school will continue to work with students on this should the challenge with the examination timetable be experienced," Johannes continued.

She also encouraged staff and students to make an appointment with her office if they wish to report anything.

- fhamalwa@nepc.com.na

PUBLIC NOTICE
ENVIRONMENTAL IMPACT ASSESSMENT

[illegible]

REPUBLIC OF NAMIBIA

MINISTRY OF FINANCE and PUBLIC ENTERPRISES

ANNOUNCEMENT: PUBLIC ENTERPRISE BOARD VACANCIES

(CLOSING DATE: 05 MAY 2023)

Ministry of Public Enterprises (MPE), is inviting applications from Namibian nationals for board membership of:

NATIONAL ART GALLERY OF NAMIBIA (NAGN)

To register and apply, visit us on the link: https://e-recruit-mpe.gov.na

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Appendix D: Copy of Allocation Letter from NIDA

nida
NAMIBIA INDUSTRIAL DEVELOPMENT AGENCY
Growing Sustained Industries

11 Goethe Street, Private Bag 13252, Windhoek, NAMIBIA
Tel: +264 61 206-2111
info@nida.com.na
www.nida.com.na

Enquiries: Marvin.Tjikongo@nida.com.na – Cell. 081 129 3882

13 December 2022

Ms Virginia M N. Basson
NUVERAH PRIME INVESTMENTS CC
PO Box 2147
Otjiwarongo

Dear Ms Nuverah

RE: ACCEPTANCE OF OFFER LEASE TO NIDA OTJIWARONGO CEMENT FACTORY – PORTION 1

The above matter refers.

Kindly note that in terms of section 55 of the Public Procurement Act, 2015 (Act No.15 of 2015), your application for lease has been successful.

Should you wish to take occupation of the unit applied for the following fees must be paid into the Agency's bank account (details herein under) within 7 (seven) days from date of receipt of this letter, please provide proof of payment in order for NIDA to complete your lease agreement

Monthly Rental Instalment	N$	1 000.00
Breakage Deposit	N$	869.56
Administration Fees	N$	100.00
Revenue stamp fees	N$	225.00
Total	N$	**2 194.56**

Commencement date shall be 01 January 2023, for the term of three (3) years with a 5% annual increment.

You are hereby informed that a separate lease agreement and a shareholding agreement shall be concluded subsequent to the acceptance of this offer.

Picture 33 Copy of Allocation Letter from NIDA

Appendix E: Curriculum Vitae of Environmental Assessment Practitioner

D.O.B. September, 24th 1977

P.O. Box 2112, Swakopmund, Namibia
Mobile: +264811405898 or +2648140815077
Email: theo.uvanga@gmail.com

Skills and Attributes

- Demonstrates strong attention to detail in all aspects of work, meeting organisational standards in both the operational and strategic aspects of a role.
- Excellent analytical and critical thinking ability, with a postgraduate qualification in Human and Sustainable Development and a graduate qualification in Public Administration
- More than eight (8) years hands on working experience in Occupational Health, Safety, Environment & Communities in a Mining and Processing environment at middle and senior management level.
- More than seven (7.9) years hands on experience in sustainable development and socio-economic justice work at Management Level
- Six years and four months (6.4) years working experience within a Development Finance Institution in the field of environment and sustainability as well as Enterprise Risk Management at Management Level
- Strong knowledge and combined working experience of more than twenty-two (22) years on sustainable development, poverty-related issues, trade politics, rural development, occupational health and safety and environmental protection, public health (HIV/AIDS), gender equity issues and development finance on senior level.
- Strong Health, Safety & Environmental acumen, working knowledge and 1st and 2nd Party ISO18001 and ISO14001 implementation, management and certification audit experience.
- Strong knowledge and working experience of the Environmental Impact Assessment framework.
- Strong workshop facilitation and training skills
- Substantial development policy work experience.
- Proven ability to work effectively in a team environment and strong interpersonal skills.
- Outstanding writing skills including the ability to synthesise complicated policy issues into digestible, actionable briefings and to communicate our agenda to non-specialist audiences.
- Excellent time management, forward planning, and prioritisation skills, with the ability to work under pressure and to deadlines.
- Proven researching ability and attention to detail.
- A clear understanding of the links between policy, lobbying, campaigning and media work.
- Adding value by integrating sustainable development management with the business context and process
- Track record in mobilising support from donors and can demonstrate beneficial, tangible outcomes.
- Ability to undertake vigorous networking, investing in relationships to continually inform, challenge, and improve advocacy messaging and tactics.
- Proven team leadership, decision making, effective management skills, can demonstrate ability to work both collaboratively and independently.
- Ability to coordinate and delivery of agreed plans or strategies
- A commitment to the highest standards of professional endeavour and the ability to take a leadership role in the community.
- An awareness of ethical, social, gender and cultural issues and their importance in the exercise of professional skills and responsibilities.
- Ability to do research appropriate for an applied research project.
- Influencing internal and external teams and stakeholders to achieve optimal environmental and sustainable development outcomes.
- Taking responsibility and accountability for own behaviour, performance and development
- Experience of effectively influencing outside own team and successfully representing specific programme or specific issues
- Ability to represent organisation at a strategic level and in high profile environments.
- Ability to travel at short notice including willingness to travel and work unsocial hours when necessary to meet and exceed programme goals.
- Track record of managing teams across various industries

Qualifications and Training

Dates (dd/mm/yyyy)	Qualifications obtained/complete	Place of Training
20 October 2017	**Certificate if Advance Business Lending for Development Programme for Development Financiers**	Development Bank of Namibia & On Track Learning Solutions Namibia
9 months during 2016 completed on 20 January 2017	**Practical 6-day session on Applied Systems Thinking**	Development Bank of Namibia & Systems Thinking Africa
13-15 April 2016	**Management Development Programme**	The SADC Development Finance Resource Centre, Safari Hotel, Windhoek, Namibia
8th November 2014	Activity Number: ORG00323-2014-001 **Level 1 Clinical: 7 CPD Points** Ethics: 1 CPD Point	NASOM Congress Namibia Society of Occupational Medicine. Otjiwa Safari Lodge, Otjiwarongo, Namibia
12-13 August 2014	**Certificate of Completion in Advanced Excel**	Empowered Mind Training Consultancy Reg. No D/2014/0589 Windhoek, Namibia
12-15 July 2014	**The Assessment of Impacts of Mining on the Environment: The geochemist's approach**	University of the Witwatersrand, South Africa
15-16 June 2014	**Environmental Geochemistry, Mineralogy, and Microbiology of Arsenic short course,**	Mineralogical Society of America and the Geochemical Society 15-16 June 2014, Miners Foundry, 325 Spring Str, Nevada City, California, 95959 USA
20/05/2013 – 05/06/2014	**NEBOSH National Environmental Diploma** Student No: 00233542 *Only obtained the certificate.*	SHEilds Ltd UK Head Office Tel: +44(0)1482 806805 Web: www.sheilds.org SHEilds House, Unit 24 Priory Tec Park, Saxon Way, Hessle, HU13 9PB. Registered business number: 4623681 England. VAT registration number: 808949875
09/06/10 - 29/11/10	**Rio Tinto Global Front Line Leadership Programme:** • Leading for a Zero Harm Culture • Understanding Self as Leader • Building & Maintaining an Engaged Team • Budgeting Management, Continuous improvement & Change management	Rio Tinto: Rössing Uranium, 28 Hidipo Hamutenya Avenue Private Bag 5005 Swakopmund, Namibia Tel. +264 64 520 9111 Fax +264 64 520 3017 http://www.rossing.com/index.html
23/08 – 27/08/2010	**Rio Tinto Health, Safety, Environmental Quality (HSEQ) Business Conformance Auditor Training for Auditors and Lead Auditors**	Richards Bay Minerals, Kwazulu Natal - South Africa Presented by Det Norske Veritas (DNV)

07-09 July 2009	Understanding Seismograph Equipment Setup & use of Instantel Seismographs Instantel Compliance Software Intro to ground vibration & air blast from blasting operations	Blast Management & Consulting Trainer: JD Zeeman Address: 61 Sovereign Drive, Centurion, 0157, South Africa Phone:+2712 345 1445 www.blastmanagement.co.za
09/2002 – 09/2003	**Master's degree: MA Africa Human & Sustainable Development** **Majors:** Development Studies, Politics, International relations, Political economy of resources and development Student ID: 200-014-360	Institute for Politics and International Studies [POLIS] Social Sciences Building **University of Leeds** Leeds, LS2 9JT, United Kingdom pgpolis@leeds.ac.uk http://www.polis.leeds.ac.uk/
17-20/04/2001	**Budgeting Made Simple**	**Polytechnic of Namibia / Namibia University of Science and Technology (NUST)** Centre for Entrepeneurial Development 13 Storch St, Whk-West P/bag 13388, Windhoek, Namibia http://www.nust.na/?q=centres/centre-enterprise-development-ced
02/1996 – 11/1999	**Bachelor of Administration (4YR)** **Majors:** Politics, Public Administration, Industrial Psychology, Marketing & Economics Student ID: 9615946	**University of Namibia** Faculty of Economics and Management Science, P/bag 13301, 340 Mandume Ndemufayo Av, Pioneerspark, Windhoek www.unam.edu.na/
01/1990 – 11/1995	**High School - Grade 12** **EXAMS**: Higher International General Certificate of Secondary Education [HIGCSE} & International General Certificate of Secondary Education [IGCSE] Student ID: NA 202 52	**Deutsche Oberschule Swakopmund** currently known as Namib High School P.O. Box 118, Swakopmund, Namibia Tel: +26464404478 http://namibhigh.school.na/

Employment History

Development Bank of Namibia, 01 Oct to 31 December 2018
Reports to Chief Executive Officer
Job Title: Acting Head: Risk and Compliance: Managed 4 direct reports

The primary focus of this role was to enable DBN to achieve its strategic objectives by implementing and monitoring the Risk Management Framework and advising EXCO, Board of Directors, Audit, Risk and Compliance Committees on appropriate risk management strategies, with overall responsibility for risk monitoring, risk evaluation and risk measurement.

The role also focusses on creating, designing and implementing a compliance function and framework that supports the strategic goals of the Bank;

KPA 1: STRATEGIC DEFINITION, RISK, COMPLIANCE PLANNING AND ASSESSMENT

1. Planning for Risk Management
   - To ensure that strategies applied by the business are in support of the Vision and mandate of the Bank and that it is within the risk appetite/tolerance levels reflects expectations of the board and shareholders.
   - To ensure that the Risk and Control frameworks of the bank are operating effectively.
   - To ensure that these frameworks are maintained and updated as approved by the Board of Directors
   - To ensure that the risk controls required by the Frameworks remain within agreed risk appetite.
   - To ensure that risk identification, assessments, mitigation and monitoring are taking place and reported risk information to the CEO and the Board
2. Planning for Compliance Risk Management
   - To provide an effective compliance risk management framework and appropriately resourced specialized regulatory compliance support to the Bank.
   - To ensure strategic direction and focus and need to develop Bank wide compliance coverage plans and achieve the Compliance Function's targets.
3. Risk Identification and Assessment
   - To identify; evaluate; accept and/or transfer risk in line with the Bank's Risk Appetite and Tolerance levels that may ultimately impact achieving the Bank's strategic objectives.
   - To track and monitor risks assigned to business owners/risk assurers and ultimately control the risk appetitive of DBN.
4. Relationship building, communication and coordination to synergize inter-departmental dependencies
   - To minimise the bank's credit; market; investment; operational and liquidity risk exposure.
   - To understand and interpret changes in the environment and their impact on the organisation and make recommendations and changes accordingly.

KPA 2: OPERATIONAL RISK EVALUATION AND MONITORING

1. Monitoring and Evaluating Risk
   - To track implementation and outputs systematically and measure the effectiveness of programmers in order to determine exactly when a programme is on track and when changes may be needed.
   - To maintain current information on risk assessments and ensure that all relevant parties are informed.
2. Reporting and Compliance
   - To ensure compliance to reporting requirements and professional standards (disclosure).
3. Oversee, lead and monitor evaluation of department
   - To ensure smooth running of departmental functions.
4. Lead and direct financial needs and resources
   - To ensure control of financial needs and resources and remain accountable for all financial resources and departmental expenditure.

KPA 3: HUMAN RESOURCE LEADERSHIP AND DIRECTION

- To ensure ownership and buy-in is created with each team member to achieve the set objectives of the credit risk department in terms of performance and delivery.
- To ensure development and retention of employees and critical competence for the successful functioning of the credit risk department.

Development Bank of Namibia, 18 January 2016 to 30 January 2022
Reports to Head: Risk and Compliance
Job Title: Manager: Environment and Social Development: Managed 2 direct report.

The primary focus of this role is to screen new projects, assigning environmental risk category, and conducting due diligence to evaluate environmental, occupational health and safety and social risks of projects under consideration. This helps the DBN to avoid and manage loans with potential environmental and social risks by conducting environmental and social due diligence prior to loan disbursement and adequate supervision of projects during the term of the loan agreement. Also act as Risk and Compliance Officer in assessing enterprise risk of all applications.

- Set up, revise and implement the Environmental and Social Management System (ESMS)
- Communicate ESMS requirements.
- Screen projects against Applicable Requirements (e.g., Exclusion List/national laws)
- Ensure that all loan decisions are supported by appropriate environmental and social reviews.
- Screen and review all Environmental Impact Assessments and Environmental and Social Management Plans submitted by clients.
- Participate in loan decision-making process.
- Determine and include environment, occupational health and safety covenants in loan agreements.
- Provide in-house training to staff on the ESMS and provide guidance where required.
- Monitor, inspect, audit and track project performance.
- Report to AfDB on accidents/incidents and on an annual basis
- Represent the DBN on forums and steering committees with like-minded organisations
- Enterprise Risk Management, appraisals, due diligence and advise to Exco.

Swakop Uranium at Husab Mine, Namibia, 08 June 2015 to 15 January 2016
Reports to Safety, Security, Health and Environmental Manager and Senior Vice President Operations
Job Title: Environmental Superintendent: Managed 12 direct reports

The primary purpose of this role was the delivery of quality support and technical advice to stakeholders, concentrating on compliance with legal and other requirements as well as continuous improvement of Environmental performance through the prevention and mitigation of Environmental impacts and footprints.

- developing and implementing environmental strategies and action plans that ensure corporate sustainable development.
- taking the lead on sustainable procurement for all goods and services.
- coordinating all aspects of pollution control, waste management, recycling, environmental health, conservation and renewable energy.
- leading the implementation of environmental management system, standards, policies and practices.
- ensuring compliance with environmental legislation and keeping up to date with Namibian and international regulation and legislation.
- liaising with relevant bodies such as local authorities, public bodies and competent bodies.
- auditing, analysing and reporting environmental performance to internal and external clients and regulatory bodies.
- give input and review impact assessments to identify, assess and reduce Swakop Uranium's (SU) environmental risks and financial costs.
- promoting and raising awareness, at all levels of SU, of the impact of emerging environmental issues, whether legislative or best practice, on corporate, ethical and social responsibility.
- developing and implementing environmental management systems to continually improve the impact of SU on the environment and implement the commitments of the Consolidated Environmental Management Plan (EMP)
- coordinating public hearings and consultations on environmental matters.
- managing relations with the board of directors, senior management and internal staff.
- training staff at all levels in environmental issues and responsibilities.
- participating in environmental education and research.
- negotiating environmental service agreements and managing associated costs and revenues.
- writing environmental reports, assuming the lead responsibility with the company.
- being proactive about corporate social responsibility issues and taking action to ensure these are met.
- setting organisational sustainability targets and developing plans to meet those targets and oversee their delivery.
- Represent SU on stakeholder forums such as the Sustainable Development Forum

Dundee Precious Metals Tsumeb, Tsumeb, Namibia, 10 September 2012 – 5 June 2015
Reported to DPM Vice President Environment, DMPT Senior HSE Manager & DPMT Vice President & GM
Job Title: Environmental Manager: Managed 16 direct reports

The primary purpose of this role was the delivery of quality support and technical advice to stakeholders, concentrating on compliance with legal and other requirements as well as continuous improvement of Environmental performance through the prevention and mitigation of Environmental impacts and footprints.

Core Focus of work and areas which I engage on (and plan to) on a daily, weekly, and monthly basis.

- ensuring compliance with environmental legislation.
- managing the development and implementation of an environmental management system (ISO14001);
- coordinating all aspects of pollution control, waste management, recycling, environmental health, conservation and renewable energy.
- auditing, analysing and reporting environmental performance to internal and external clients and regulatory bodies.
- developing and implementing environmental strategies and action plans that ensure corporate sustainable development.
- overseeing consultants carrying out impact assessments to identify, assess and reduce an DPMT's environmental risks and financial costs and approving reports.
- leading the implementation of environmental policies and practices.
- promoting and raising awareness, at all levels of DPMT, of the impact of emerging environmental issues, whether legislative or best practice, on corporate, ethical and social responsibility.
- coordinating public hearings and consultations on environmental matters.
- managing relations with Exco, senior management and internal staff.
- training staff at all levels in environmental issues and responsibilities.
- participating in environmental education and research.
- negotiating environmental service agreements and managing associated costs and revenues.
- writing environmental reports, assuming the lead responsibility with the company.
- leading on corporate social responsibility issues and action.
- taking the lead on sustainable procurement for chemicals and hazardous materials.
- Overall environmental management to ensure environmental compliance and stewardship for the smelter.

Rio Tinto Plc: Rössing Uranium Limited, Swakopmund, Namibia, 01 May 2012 – 6 September 2012
Front Line Manager: Reported to Manager Sustainable Development and Environment
Job Title: Advisor Product Stewardship – Environment and Communities

Rössing is committed to maintain, manage and improve world class performance with a second-to-none reputation in Product Stewardship. By implementing and applying the relevant Rio Tinto standards and complying with the relevant legislative and regulatory frameworks, the Product Stewardship program is based on knowledge of risks, impacts and consequences and pro-active support through a simple, effective and user-friendly system.

Core Focus of work and areas which I engaged on a daily, weekly, and monthly basis.

1. **Understand and manage all current and future effects.**
    - Establish, maintain and improve an efficient documentation system and database relevant to Product Stewardship.
    - Understand and evaluate significant and potential risks, impacts and consequences which are posed by Rössing.
    - Conduct and direct necessary research and developing mitigation strategies and action plans to address significant and potential risks in conjunction with key stakeholders.
2. **Mitigate and drive continuous improvement.**
    - Assess direct and indirect and cumulative impacts of past, present and future activities relevant to Product Stewardship.
    - Analyse data to identify improvement opportunities and emerging areas of concern.
    - Research literature to continuously assess RUL's standards compared to relevant Product Stewardship

practices.

3. Compliance
   - Assist in meeting obligations of legislative and regulatory frameworks and Rio Tinto reporting and compliance requirements on Product Stewardship.
   - Compile and provide accurate reporting of Product Stewardship data as required by Rössing, Rio Tinto and other stakeholders to ensure compliance and to track progress of objectives and targets.
   - Conduct inspections, 1st and 2nd party audits.
4. Support
   - Provide sound technical guidance and support to ensure that Rössing meets its obligations and remains a leader in assessing, avoiding and mitigating adverse impacts.
   - Support stakeholders with the necessary knowledge and tools to drive continuous improvement.
5. Engage and networking.
   - Ensure that the concerns or complaints from the local communities are addressed in time.
   - Design and provide risk-based awareness materials and give training on Product Stewardship to employees and community.

Rio Tinto Plc: Rössing Uranium Limited, Swakopmund, Namibia, 02 June 2008 – 30 April 2012
Front Line Manager: Reported to Manager Sustainable Development and Environment
Job Title: Environmental Specialist/Advisor- GHG Emissions & HSE EMS Plant Operations
Environmental Management Section

Core Focus of work and areas which I engaged on a daily, weekly, and monthly basis.

HSE MS Maintenance: I was responsible for the day-to-day environmental matters in relation to the Rössing Processing plant/Production (*Primary crusher, fine crushing plant, extraction operations, comminution, recovery operations, tailings and water management and maintenance areas in production*) area at Rössing Uranium Limited. This includes the identification of hazards and ensuring, with support, that the risks are appropriately managed.

Areas of emphasis are but not limited to:

- Maintenance of ISO 14001 certified Environmental Management Systems (EMS)
- Ensure that all operational HSE aspects and impacts have been identified, ranked and appropriately managed according to ISO14001, HSEMS and the performance standards for the production area.
- All Environmental related incidents reported, investigated, risks are analysed and communicated lessons learnt of significant incidents and Significant Potential Incidents (SPI's)
- Applies an appropriate level of technical knowledge in the management of Environmental Risk
- Communication and engagement: Provision of environmental technical support and feedback to operational teams
- Develops and delivers relevant Environmental messages to internal and external audiences.
- Provide competent environmental inputs at Hazard Identification and Risk Assessment (HIRA's), Hazard, and Operability Analysis (HAZOP's) and, design reviews etc.
- Participation in site investigations, EMS audits and good practice forums
- Mentoring / supporting the line i.e., incident and action management.
- Continuous interaction and regular engagement with employees and contractors
- Bi-annual engagement with Rio Tinto internal auditors
- Annual engagement with external auditors
- Conduct internal (1st Party) and external (2nd party) HSEMS and HSE Performance Standards Audits at Rio Tinto operations.
- Adds value by integrating environmental issues with the business context and processes.
- Technical input to policies and procedures
- Training provision to the line on Health, Safety & Environmental Management Systems, Rio Tinto Environmental Performance Standards and incident and action management
- Subject specific advice
- Influences internal and external stakeholders to achieve optimal environmental outcomes.
- Aligns behaviours, decisions and actions with the values and principles in the Rio Tinto "The way we work" and related guidelines and standards at Rössing.
- Monthly reporting to the line and mine wide on actions, activities, successes and failures

1. **Implement, maintain and management of Rio Tinto Environmental Standards (E4- Greenhouse Gas Emissions)** Mine wide and with Rio Tinto Energy & Climate Strategy

- To implement and maintain RT E4-Greenhouse Gas Emissions Standard at Rössing to conform to the RT standard requirements on a continuous basis.
- Understand all current and future GHG emissions inventories and their factors.
- Identify, evaluate and prioritize significant GHG sources and
- Design and implement a Greenhouse Gas and climate change action plan with appropriate control, reduction and mitigation measures.
- Ensure that appropriate measures are in place for metering or estimating the emissions.
- Conduct periodic reviews to identify potential risks associated with achieving set targets for GHG emissions performance.
- Ensuring that the relevant stakeholders are appropriately trained in the areas of policies, procedures, and analysis of GHG data.
- Research literature to continuously assess Rössing's standards compared to local and international practices.
- Monitor legislation and assess impact.
- Based on legislation changes, implement programmes to ensure compliance.
- Maintain audit integrity of standard for internal and third-party auditing.
- Inspections, internal and external HSEMS auditing
- Regular engagement with external stakeholders (e.g., government, customers and public) through awareness programmes and sessions
- Monthly reporting mine wide, Rio Tinto Energy & Climate Strategy on activities and business performance to the targets
- Build relationships with outside agencies and stakeholders who specialise in GHG management and regulation to enhance RUL capacity.
- Business Engagement on Climate Change Adaptation
- Coordination with departments on GHG emissions reduction mine wide.
- RT collaborative forums (Environment, Energy & Climate Strategy, Electricity Metering & Monitoring)
- Contribute to E-bulletin articles on Climate Change, energy efficiency and GHG management.

2. **Occupational Health, Safety and Environment Representative (OHSE)** *for Environmental and Safety departments*

- Regularly inspect the workplace areas I was elected to represent, at agreed times and frequency.
- Immediately investigate the scene and details of any accident, dangerous incident or risk of serious injury or harm to any person.
- Keep up to date with workplace safety and health information provided by the employer and liaise with government and other bodies.
- Report hazards in the workplace to the employer.
- Where there is a HSE committee for the workplace, to refer any matters that I think should be considered by the committee.
- Consult and cooperate with the Management on HSE matters.
- Liaise with Management about HSE matters.
- Keep records of tasks related to the functions of a health, safety and environmental representative.
- Where requested, participate in discussions on OHSE during the regular department/output team meeting(s) for the sections, I have been elected to represent.
- Key point of contact for staff/contractors working in Environmental and Safety building area with regard to OHSE issues/enquiries.
- Provide feedback to the Management accountable for the sections, regarding HSE areas of concern, issues to be resolved, accident or near-miss investigations.
- Chair the OHSE Representative Committee meetings on a rotational basis.
- Maintain minutes and records for the OHSE Representative Committee meetings.
- Attend OHSE Committee meetings
- Provide support to the section Superintendents in meeting their responsibilities for ensuring employees have received appropriate HSE training, including safety refresher training etc.

Global Call to Action against Poverty (GCAP) Africa Secretariat, Dakar, Senegal, 08 August – 31 December 2007, **GCAP Africa Policy Consultant**

- Conduct research on African trade pacts & policies with the rest of the World e.g., EU-Africa Strategy, AGOA, WTO, EPA
- Formulate GCAP policy positions based on the Millennium Development Goals for African coalitions and mobilise them to engage their governments, regional trade groupings, civil society and other stakeholders.
- Organise and mobilise African national coalitions to hold events and lobbying meetings in their countries to coincide with key world summits such as the G8 Summit, WTO meetings etc.
- Organise and facilitate workshops and train African coalitions on GCAP policy demands.

Namibia Development Trust, Windhoek, Namibia, 02 February 2004 – 06 August 2007
Reported to Executive Director and Namibia Country Projects Manager
Programme Officer

- Working with the Director and National Programmes Manager to deliver policy support for the organisation's strategic priorities.
- Ensuring that NDT's campaigning, media and lobbying products have policy credibility and effectiveness.
- Researching, monitoring and analysing the policies of key ministries.
- Drafted and submitted proposals to funding agencies for fundraising for social programmes.
- Contributing research and analysis to NDT's policy development. Areas of focus included the following: CBNRM, GCAP, HIV/AIDS, education, poverty alleviation, development assistance, trade, and governance.
    - Implementation and Management of the Community Based Natural Resource Based Management (CBNRM) programme with non-profit organizations.
    - Partake in specific development programmes at National Office and with NDT field staff at regional office level and assist with the implementation of such programmes and projects.
    - Maintain regular contact with various Regional Offices and assist them in the maintenance of organizational and developmental activities (rural development community projects).
    - Train community-based individuals/groups in environmental awareness, management, environmental legislation and management systems and basic self-management and operational skills.
      Assist in rolling out and continuous engagement of the Bristol Meyers Squib Foundation outreach HIV/AIDS education and prevention programme in Hardap and Karas regions.
    - Coordinate the NANGOF/NDT Coalition on the UN Millennium Development Goals Campaign and the Global Call to Action Against Poverty in Namibia 2005-2007 on a voluntary basis.
    - Steering Committee Member on the One World Action's Voices, Influences and Access Project in Southern Africa (action on Economic Partnership Agreement's and equitable trade campaign (Cotonou Agreement). 2005-2008 on a voluntary basis
- Keeping on top of key policy developments in think tanks, the wider policy community, NGOs, and media related to SADC and Africa, and communicating these internally and externally where appropriate.
- Using independent judgment in balancing and adhering to long and short-term deadlines and completing activities.
- Driving forward lengthier, longer-term research projects.
- Providing general support to the Management team at peak moments as required.
- Acts as public relations officer for NDT by engaging the media, programme recipients, donors, external and local civil society organisations in related matters.

Oxfam Canada, Ben-Hur Rural Development Centre, Gobabis, Namibia, January 2000 – 19 September 2002
Reported to Oxfam Country Representative and Toronto Head Office
Programme Manager (Jan – September 2002) Managed 25 direct reports.
Assistant Programme Manager (Jan 2000 – December 2001) Managed 20 direct reports.

- Implementation and management of the Omaheke Integrated Development Programme (OIDP) in the Omaheke Region from Ben-Hur R.D.C
- Assist marginalised rural communities to improve their lives and livelihoods through coordinating health, literacy and poverty reduction programmes.
- Overall Management and Implementation of programmes and Projects including Administration, HR, Finances, Marketing.
- Host, engage and mentor local and internship students at BHRDC.
- Implement and manage the Community Based Natural Management Programme

- Training of community groups and individuals in basic project management and human rights issues from a development perspective
- Ensure that activities @ BHRDC are implemented according to programme/project objectives and plans and in accordance with Ministry of Agriculture, Water and Rural Development (MAWRD) policy and Oxfam Canada Policy.
- Plan, Manage, Supervise and Monitor BHRDC Activities in Coordination with Oxfam Canada Country Representative.
- Liaise and coordinate with MAWRD and other partners on issues relating to management of BHRDC.
- Draft project proposals for funding to international donors for development projects
- Advise and assist the Oxfam Canada Country representative on decisions relating to BHRDC.
- Ensure that financial and narrative reports are prepared and submitted in a timely manner according to agreed formats and schedule e.g. [monthly, quarterly, annually]
- Participate at the BHRDC Steering Committee Meetings.
- Independently solve problems with creative solutions developed collaboratively with parties concerned.
- Drawing up a marketing plan and marketing of the Centre to potential clients and customers

Oxfam Canada, Windhoek, Namibia, July -October 1999

- Development internship with an international non-profit organisation working to ensure poverty and injustice is reduced and reversed through programme work.
- Researched information and helped develop policies and performed various administrative support tasks for programme support.

Accomplishments

1. Founding member and Coordinator for the UN Millennium Development Goals Campaign and Global Call to Action Against Poverty in Namibia residing within the NDT/NANGOF Socio-Economic Justice Sector from 2005-2007
2. Working Group Steering Committee Member of the One World Action, Voices, Influence and Access (VIA) Project in Southern Africa (action on Economic Partnership Agreements and equitable trade campaign Cotonou Agreement) 2005-2008
3. Steering Committee Member of the Namibia Climate Change Committee 2007 to present

Publications

UVANGA, T. & DEMPERS, R. (eds), (2006). Making trade work for women, The likely impact of the economic partnership agreements on women's rights and gender. Beef Sector in Namibia. One World action, London and Namibia Development Trust, Windhoek, Namibia

Computer Skills

- Microsoft Word, Excel, Power Point, Internet and Window's PC; standard office equipment, SAP, Taproot

Language Skills

- Fluent in English, Afrikaans (speaking, reading, writing); Fair in German (speaking, reading, writing) Otjiherero (native language), rudimentary spoken Oshiwambo ·

International Conferences attended [Presented position papers and facilitated discussions]

1. Towards Action by Namibian Civil Society on Millennium Development Goals – Organized under the auspices of NANGOF in collaboration with One World Action (VIA Project) and Namibia Development Trust, Workshop held at Hotel Fürstenhof- Windhoek, Namibia March 09,2005
2. Southern Africa UN Millennium and GCAP Campaign meeting, Harare Zimbabwe 1st September 2005
3. Draft Steering Committee Meeting: Taking Stock and Moving Forward: Consolidation GCAP Africa in 2005 &
4. the future Workshop" Harare, Zimbabwe November 7-9th 2005 Convened by GCAP Africa Steering Committee and organised by Mwelekeo wa NGO
5. Southern Africa GCAP Regional Planning Consultation, Rosebank Hotel, Rosebank, Johannesburg South Africa, 17 February 2006
6. One World Action: Voices Influences and Access Project: Regional Steering Committee Group Meeting and
7. Capacity Building Session, Rosebank Hotel, Rosebank, Johannesburg South Africa, 8th –10th March 2006
8. GCAP Africa and International Facilitation Group Meeting, Crown Plaza Hotel, Hamra, Beirut, Lebanon, 11- 15 March 2006
9. GCAP Ambassadors Orientation Meeting, Victoria Falls, Zimbabwe 21 –24 September 2006
10. World Social Forum Meeting: Millennium Development Goals and Trade Liberalisation. Moi International Sports Centre, Kasarani, Nairobi, Kenya, 20-25th January 2007
11. One World Action: Voices Influences and Access Project 4th VIA Project Partners Meeting, Intercontinental Hotel, Lusaka, Zambia, 07-11 March 2007
12. Conference on Poverty Reduction and Unemployment and Entrepreneurship development in Namibia, Safari Hotel, Windhoek, Namibia 4-6 June 2007
13. GCAP AFRICA REPS TO AU SUMMIT: Continental Civil Society Conference on the Proposed African Union
14. Government & Accelerating Africa's Integration and Development in the 21st Century: Prospects and Challenges of Union Government, Ghana Institute for Management and Public Administration (GIMPA), Greenhill, Accra, Ghana, 22-25 June 2007
15. Africa-Asia NGO Network Workshops in Kenya and Japan, - Creating and Strengthening Relations and Policy Capacity of NGO Networks in Africa and Asia including Japan, 17 – 18 September 2007 (Nairobi, Kenya workshop)
16. One World Action: Voices Influences and Access Project. Civil Society debate on implications of SADC-EU Economic Partnership Agreements on gender and trade in Southern Africa. Hotel Avenida, Maputo, Moçambique, 22-24 April 2008
17. National Climate Change Awareness-Raising Workshop, Safari Hotel, Windhoek, Namibia 23-25 September 2008
18. The Assessment of Impacts of Mining on the Environment: The geochemist's approach, 12-15 July 2014, University of the Witwatersrand, South Africa
19. Environmental Geochemistry, Mineralogy, and Microbiology of Arsenic short course, Mineralogical Society of America and the Geochemical Society 15-16 June 2014, Miners Foundry, 325 Spring Str, Nevada City, California, 95959 USA
20. 9th International Conference on Mine Closure, 1-3 October 2014, The University of the Witwatersrand (WITS), Johannesburg, South Africa, 1-3 October 2014, Sandton Convention Centre, Johannesburg, South Africa
21. Namibia Society of Occupational Medicine Congress, Otjiwa Safari Lodge, Otjiwarongo, Namibia, 8th November 2014. Activity number: ORG00323-2014-001
22. Management Development Programme, The SADC Development Finance Resource Centre, 13-14 April 2016, Safari Hotel, Windhoek, Namibia
23. Transformative Scenario Planning, The University of Namibia (UNAM), the University of Cape Town (UCT) and Oxfam, in collaboration with the Desert Research Foundation of Namibia, 30-31 May 2016, Heja Game Lodge, Windhoek
24. Consultation Workshop to discuss the Draft National Science, Technology and Innovation Policy, 22 June 2016 at the Safari Hotel and Conference Centre, Windhoek
25. African Drought Conference, Ministry of Environment and Tourism,15-19 August 2016, Windhoek Country Club and Resort, Namibia
26. Attendance of the COP23 to the United Nations Framework Convention on Climate Change from 6 to 17 November 2017 in Bonn, Germany
27. Attendance of negotiations and deliberations on the COP24 and the CMP14 to the United Nations Framework Convention on Climate Change (UNFCCC) taking place from 3-14 December 2018 in Katowice, Poland.
28. Attendance of negotiations and deliberations on the COP25 and the CMP15 to the United Nations Framework Convention on Climate Change (UNFCCC) taking place from 25 November -13 December 2018 in Madrid, Spain.

References

1.	**Mr Phil Ely**	**Managing Director** **EHS Data** **Phone: +44 (0) 845 388 2458** **Mobile: +44 (0) 7967 503646** **Mail: phil.ely@ehsdata.com** **Web: www.ehsdata.com**
2.	**Mr Martin Inkumbi**	**Chief Executive Officer** Development Bank of Namibia Office: +264-61-2908071 Fax: +264-61-2908071 Email: MInkumbi@dbn.com.na
3.	**Mrs Saima Nimengobe**	**Head: Risk and Compliance** Development Bank of Namibia Office: +264-61-2908056 Mobile: +264-811244604 SNimengobe@dbn.com.na www.dbn.com.na
4.	**Mr. Zeka Alberto**	**Corporate Counsel** **Rio Tinto plc** Rössing Uranium Limited 28 Hidipo Hamutenya Avenue Private Bag 5005, Swakopmund, Namibia Tel: +264-61-2809025 Mobile: +264 0811225191 Email: zeka.alberto@riotinto.com
5.	**Mr. Norman Tjombe**	**Partner: Norman Tjombe Law Office** The Village, 18 Liliencron Street, Windhoek PO Box 1148 ; Windhoek Tel: +264 61 308841 Mobile**:** +264 811223356 Email 1: normantjombe@iway.na Email 2: normantjombe@gmail.com
6.	**Mr. Petrus Johannes Dempers**	**Executive Director** **Namibia Development Trust** PO Box 8226, Bachbrecht, Windhoek West, Windhoek, Namibia Tel: +264 61 238002/3 Fax: +264 61 233261 Mobile: +264 811270548 Email: ronny@ndt.org.na Website: www.ndt.org.na
7.	**Dr. Ray Bush**	**Professor: Institute for Politics and International Studies [POLIS]** Social Sciences Building, University of Leeds Leeds, LS2 9JT, United Kingdom Tel: +44-1133436843/4393 Fax: +44-1133434400 Email: polispg@leeds.ac.uk or : r.c.bush@leeds.ac.uk Website: www.leeds.ac.uk

DECLARATION: I declare that all particulars furnished in this document are true and correct and can be verified by official certified documents and sources.

Mr. Theofelius Uvanga
Friday, 02 June 2023