An Updated Environmental Management Plan (EMP)

To Support an Application for the Renewal of an Environmental Clearance Certificate (ECC-APP3888) for the Proposed Development of !Nara Namib Free Economic Industrial Zones on Portion 2, 3 and 4 of Farm Walvis Bay No. 58

Walvis Bay, Erongo Region

August 2025

Prepared for:

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INFORMATION SHEET

Project Title Name	:	PROPOSED DEVELOPMENT OF !NARA NAMIB FREE ECONOMIC INDUSTRIAL ZONE ON PORTIONS 2, 3 AND 4 OF FARM 58, WALVIS BAY An **Updated Environmental Management Plan** (EMP) to Support an Application for the Renewal of an **Environmental Clearance Certificate (ECC)** Walvis Bay, Erongo Region
Environmental Clearance Certificate No.	:	ECC-APP3888
Applicant	:	!Nara Namib Free Economic Industrial Zone (Pty) Ltd Box 91307 372 WINDHOEK Namibia
Name of Applicant Representative		Mr Uliano Marthinnussen Project Director Cell: 081 279 3261 Email: UlianoM@Bigenkuumba-ps.com
Report Status	:	Final
Report Date	:	August 2025

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ABBREVIATIONS AND ACRONYMS

BAT	-	Best Available Technology
dBA	-	Decibels
EC	-	Environmental Commissioner
ECC	-	Environmental Clearance Certificate
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
ERP	-	Emergency Response Plan
GPS	-	Global Positioning System
GRN	-	Government of the Republic of Namibia
HFO	-	Heavy Fuel Oil
HPP	-	Harambee Prosperity Plan
IAPs	-	Interested and Affected Parties
LDV	-	Light Duty Vehicle
MAWLR	-	Ministry of Agriculture, Water and Land Reform
MEFT	-	Ministry of Environment, Forestry and Tourism
MHSS	-	Ministry of Health and Social Services
NHC	-	National Heritage Council
NSI	-	Namibia Standards Institute
ORC	-	Oshikoto Regional Council
OTC	-	Omuthiya Town Council
PPE	-	Personal Protective Equipment
SHE	-	Safety, Health & Environment
SME	-	Small and Medium Enterprises

DEFINITION OF TERMS

TERM	EXPANSION
Bunds and Bund Walls	These are walls built around tanks as a pollution control measure. Should spillage occur, the bunds will contain the fuel and prevent it from escaping into the receiving environment. The facility design includes a bund that is capable of containing the entire volume of the largest tank within the bund, plus an additional 10%. The bunds and the floor on which the tank is located are built with impervious concrete such that fuels thus cannot leak through them.
Construction Phase	The phase of a project which precedes the Operational Phase, during which project facilities and infrastructure are assembled and installed on their foundations, and connected and tested, to ensure that they operate as designed.
Emergency Plan	An emergency plan is a plan in writing that, on the basis of identified potential incidents at the installation together with their consequences, describes how such incidents and their consequences should be dealt with, both on site and off site.
Explosion	An explosion is a release of energy that causes a pressure discontinuity or blast wave
Operational Phase	The phase of a project during which the newly constructed facility/tanks, pipelines, gantries and associated facilities are operated.
Major Incident	A major incident is an occurrence of catastrophic proportions, resulting from the use of a plant or machinery or from activities at a workplace. When the outcome of a risk assessment indicates that there is a possibility.
Major Hazard Installation	A major hazard installation means an installation (a) Where more than the prescribed quantity of any substance is or may be kept, whether permanent or temporary (b) Where any substance is produced, used, handled or stored in such a form and quantity that it has the potential to cause a major incident (the potential of which will be determined by the risk assessment)
Loss of Containment	Loss of containment is the event resulting in a release of material into the atmosphere.
Risk	Risk is the measure of the consequence of a hazard and the frequency with which it is likely to occur. Risk is expressed mathematically as : Risk = Consequence x Frequency of Occurrence.
Risk Assessment	The risk assessment is the process of collecting, organising, analysing, interpreting, communicating and implementing information in order to identify the probable frequency, magnitude and nature of any major incident which could occur at a major hazard installation, and the measures required to remove, reduce or control the potential causes of such an incident.
Bulky Waste	Means waste which by virtue of its mass, volume, shape, size, quantity or cannot be stored in an approved waste container or which cannot be removed or disposed of during the council service.
Business Waste	Means waste generated on the premises used for non-residential purposes, but does not include hazardous waste, health care risk waste, industrial waste, domestic waste, builders' rubble, bulky waste, special domestic waste and garden waste.
Cumulative Impacts	In the context of quarrying, cumulative impacts would mean the impacts of quarrying activities which in themselves may not significant but may become significant when added to the existing and potential impacts resulting from similar or diverse activities or underrating in the area.
Environmental Component/Aspect	An attribute or constituent of the environment (i.e. air quality; waste management, seismicity, soil, groundwater; terrestrial ecology, noise, traffic, socio-economic) that may be impacted by the proposed project.
Environmental Impact	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
Environmental Management Plan (EMP)	A working document which contains site specific plans to ensure that environmental management practices to eliminate and control environmental impacts are followed during the developmental phases of that site, project and or facility and would normally consist of construction phase, operational phase and decommissioning phases.
	Means collection, evaluation and summarization of environmental data by continuous or periodic monitoring of certain qualitative and quantitate indicators characterizing the state of

Environmental Monitoring	environmental components and their modification as a result of the impact of natural and anthropogenic factors.
General Waste	Waste that does not pose an immediate threat or hazard to health or the environment: domestic waste; business waste and inert waste.
Hazardous Waste	Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have detrimental impact on health and the environment.
Industrial Waste	Means waste generated as a result of business, commerce, trade, wholesale, retail, professional, manufacturing, maintenance, repair, fabricating, processing or dismantling activities, but does not include domestic waste, garden or bulky waste, builders' waste or health care risk waste.
Interested and Affected Parties	All persons who may be affected by the project either directly or indirectly, or who have an interest or stake in the area to be affected by the project, including neighbouring landowners & Road Fund Administration.
Mitigation:	Measures designed to avoid, reduce or remedy adverse impacts.
Non-compliance:	Issues that are in direct non-compliance with the requirements, commitments and/or management measures as approved in the EMP.
Sensitive Area	A sensitive area or environment is described as an area or environment where a unique ecosystem, habitat for plant and animal life, wetlands or conservation activity exists or where there is high potential for ecotourism
Stakeholders:	Stakeholders are divided into two classes – statutory stakeholders (such as ATC, MEFT, Ministry of Labour, etc. and non-statutory stakeholders who could be interested and affected parties (IAPs). IAPs could be those public members whose interests may be positively or negatively affected by the project and/or who are concerned with the project/activities and its consequences.

1. BACKGROUND INFORMATION

1.1 Introduction

!Nara Namib Free Economic Industrial Zone (Pty) Ltd (‘**the Promotor’** or **‘!Nara’**) is applying for the renewal of its Environmental Clearance Certificate (ECC-APP3888) granted to it on 22 August and is due to expire. The aforesaid ECC was granted to permit the development of a greenfield industrial estate promoted as !Nara Namib Free Economic Industrial Zones on Portions 2, 3 and 4 of Farm Walvis Bay 58. Depicted in **Figure 1,** is a screenshot of the ECC awarded to !Nara.

1.2 Project Objective

The proposed project is envisioned to unlock the economic opportunities availed by the successful expansion of Namport by utilising top notch infrastructure of the port combined with excellent national road networks, proximity to the Walvis Bay International Airport and the railway network. The Namibia Development Industrial Agency (NIDA) was tasked to spearhead the initiate with the Walvis Bay Municipality coming on board by allocating virgin land measuring about 403 ha. NIDA then proceeded by inviting strategic development partners to team up with it to advance the project. !Nara was one such strategic development partner allocated 50 ha of 403 ha (about 15%) by NIDA.

In terms of the agreement with NIDA, !Nara has to develop the land parcel by creating several industrial stands and servicing such stands, (i.e. supplying potable water, electricity, roads, sewerage, etc.) ready for the construction of commercial industries of various scopes and scales. The capital investment is estimated upwards of N$200 million. The development of the individual stands is projected to inject billions of Namibia dollars in the domestic economy.

1.3 Project Status

The project is still in the concept phase stage, but the promotor would like to keep the ECC active by complying with all statutory requirements while raising the required capital investments on the international market.

1.4 Listed Activities

In terms of EMA and EIA Regulations, the proposed development has triggered listed activities (**Table 1)** which may not be undertaken without an ECC having been granted.

Table 1: Listed Activities Triggered by the Project

Listed Activity	Sub-category	Applicability
Energy Generation, Storage and Transmission Activities	1(b) - The transmission and supply of electricity	The project will establish industrial stands that have to supplied with electricity
Waste Management, Handling and Disposal Activities:	2.3 - The import, processing, use and recycling, temporary storage, transit or export of waste.	During the construction phase, waste will be generated and temporarily stored on the construction before disposal to an offsite approved landfill
Land Use and Development activities	5.1 - The rezoning of land from ‘undetermined to light industrial, heavy industrial or any other land use	The project will result in the establishment of multiple industrial stands to accommodate various types of industrial activities.
Infrastructure	10.1 - The construction of water and other bulk supply pipelines	The project will involve the supply of potable water to the industrial stands created

1.5 Scoping Assessment

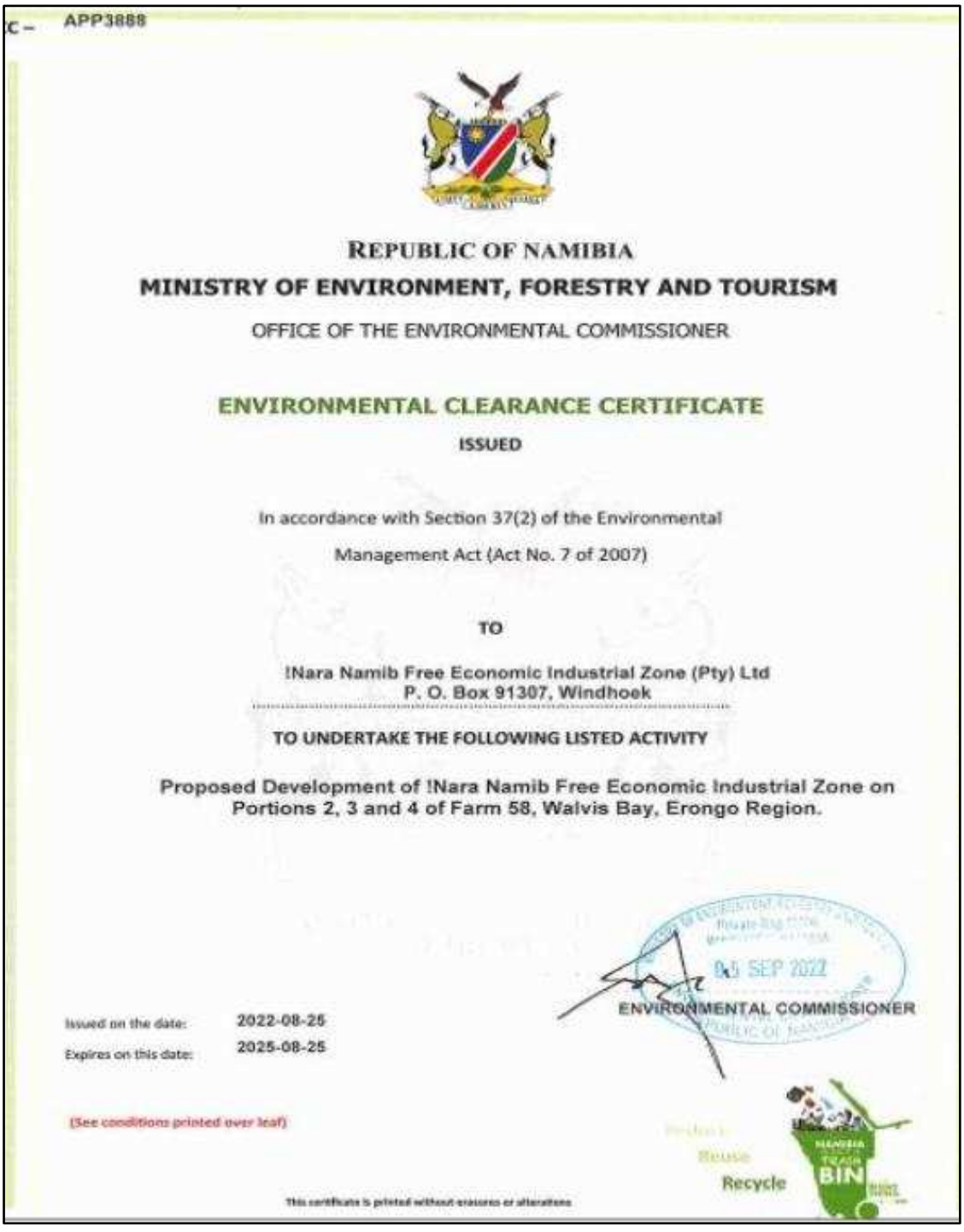
The scoping assessment report for the project was done by Environam Consultants Trading in March 2022. Based on a hard copy provided to Ekwao Consulting by the promotor, the bulk of the potential environmental impacts were, to a large extent site specific, of a short duration and with significant rating ranging from low (without mitigation) to very low (with mitigation).

1.6 Potential Environmental Impacts

A summary of the significance of the potential impacts from the proposed project as assessed during the scoping phase of the EIA are presented in Table below: Mitigation measures or management actions have been provided in the updated EMP.

Table 2: Summary of Impact Assessments

POTENTIAL IMPACTS		NATURE OF IMPACT	IMPACT SIGNIFICANCE	
			Unmitigated	Mitigated
Planning & Design Phase	Compliance	None		
	Appointments	None		
	Decarbonisation	None		
	Communication	None		
	Complains	None		
Construction Phase	Socio-economics - Employment	Positive	Medium	Medium
	-Social ills, drugs, alcohol	Positive	Low	Medium
	-Training & skill transfer	Positive	Low	Medium
	-Skills & technology transfer	Positive	Low	Medium
	Increased Traffic around the Construction Site	Negative	Medium	Low
	Traffic Disruption on Adjacent Roads	Negative	High	Medium
	Site Surface Drainage	Negative	MEDIUM	Low
	On Surface and Groundwater Sources	Negative	Low	Very Low
	Impact on Environmental Pollution	Negative	Medium	Very Low
	Impacts on Fauna & Flora	Negative	Low	Very Low
	Impacts on Existing Infrastructure	Negative	Low	Very Low
	Site Security, Safety and Public Health	Negative	Low	Very Low
	Visual and Loss of Sense	Negative	Low	Low
	Heritage & Cultural Resources	Negative	Low	Very Low
	Construction Induced Impacts	Negative	Low	Low
	-Noise Pollution	Negative	Low	Very :ow
	-Dust Pollution	Negative	Medium	Low
	-Gaseous Emissions	Negative	Medium	Low
	-Soil Loss/Erosion	Negative	Medium	Low
	-Waste (Solid & Hazardous)	Negative	Medium	Low
	-Lighting	Negative	Low	Very Low



C – APP3888

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE

ISSUED

In accordance with Section 37(2) of the Environmental

Management Act (Act No. 7 of 2007)

TO

!Nara Namib Free Economic Industrial Zone (Pty) Ltd
P. O. Box 91307, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Proposed Development of !Nara Namib Free Economic Industrial Zone on Portions 2, 3 and 4 of Farm 58, Walvis Bay, Erongo Region.

05 SEP 2022

ENVIRONMENTAL COMMISSIONER

Issued on the date: 2022-08-25

Expires on this date: 2025-08-25

(See conditions printed over leaf)

Recycle

This certificate is printed without erasures or alterations

Figure 1: Issued ECC

Figure 2: Project Location Map

2. GOVERVANCE FRAMEWORK

2.1 Legal Framework

The project must be implemented within the framework of the Environmental Management Act, EIA Regulations and related legislations, including national policies and guidelines. Some such legislations and policies are presented in Table 2.

Table 3: Applicable Environmental Legislation

Legislation/Regulations	Applicable Sections/Expansions
The Constitution of Namibia	It is the supreme law of Namibia: - Encourages wise and sustainable use of natural resources - Promotes the welfare of the people - Calls for adoption of policies that maintains the ecosystem - Incorporates a high level of environmental protection. - Encourages the use of natural resources in a sustainable manner for the benefit of current and future generation.

Environmental Management Act
 	
(Act No. 7 of 2007)
	- The Act defines what the environment is
	- Provides assessment procedures to be followed and the activities that require an EIA.
	- The Act provides a procedure for environmental assessments as indicated under Part VII and Part VIII, which is set out to:
	  - better inform decision makers and promote accountability in decisions taken;
	  - strive for public participation and involvement of all sectors of the Namibian community in the environmental assessment process;
	  - take into account the environmental costs and benefits of proposed policies, programmes and projects;
	  - take into account the secondary and cumulative environmental impacts of policies, programmes and projects; and
	  - promote sustainable development in Namibia, and especially ensure that a reasonable attempt is made to minimize the anticipated negative impacts and maximize the benefits associated with the development.

Environmental Management Act Regulations	- Commencement of the Environmental Management Act - List activities that requires an ECC - Provide Environmental Impact Assessment Regulations
Water Resource Management Act of Namibia (Act No. 24 of 2004)	- Provides for the management, development, protection, conservation, and use of water resources; - Provides for the establishment of Water Advisory Council, the Water Regulatory Board and the Water Tribunal; and to provide for incidental matters.
Local Authorities Acts (Act No. 23 of 1992, Govt Notice No. 116 of 1992)	- Governs the establishments and functions of municipalities, towns and villages within Namibia. - Sets out the powers, duties and functions as well as rights and obligations of local authority councilors, - Provides services to residents (water supply, electricity supply, sewage, housing schemes, street roads, etc.
National Heritage Act (Act No. 27 of 2004)	- Makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the National Heritage Council as soon as possible. - The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.

Hazardous Substances Ordinances (No 14 of 1974)	The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.
Atmospheric Pollution Prevention Ordinance (No. 11 of 1976)	Governs the control of noxious or offensive gases and prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Public and Environmental Health Act	▪ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters. ▪ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation. ▪ Section 111 requires local authorities to take measures for the prevention of water pollution. ▪ Section 119 provides that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health. ▪ Section 120 requires local authorities to take measures for maintaining their district at all times in a clean and sanitary condition and for preventing the occurrence therein of, or for remedying or causing to be remedies, any nuisance or condition liable to be injurious or dangerous to health. ▪ Various forms of nuisances are set out in section 122. For present purposes the following are most relevant: o any accumulation or deposit of refuse, offal, manure or other matter whatsoever which is offensive or which is injurious or dangerous to health; o any public building which is so situated, constructed, used or kept as to be unsafe, or injurious or dangerous to health; o any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable or preventable disease or injury or danger to health;
Pollution Control and Waste Management Act	▪ States that no person shall discharge or cause to be discharged any pollutant to the air from a process except under and in accordance with the provisions of an air pollution licence issued under section 23. ▪ Provides for procedures to be followed in licence application, fees to be paid and required terms of conditions for air pollution licences. ▪ Stipulate that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances. ▪ Provides for emergency preparedness by the person handling hazardous substances, through emergency response strategies.

2.2 Municipality Bylaws

The following bylaws of the Municipality of Walvis Bay must be considered during the planning/design, construction, operation and maintenance phases of the proposed development.

- Waste handling and disposal
- Environmental Health Bylaws
- Bylaws related to storm water management
- Water services Bylaws
- Solid Waste Bylaws
- Traffic Regulations

3. MANAGEMENT PROCEDURES

3.1 Organizational Structures and Responsibilities

Formal responsibilities are necessary to ensure that key management measures/procedures are executed. The promotor (!Nara) will be responsible for the overall control of the project site. In Table 3 are some of the functions and responsibilities related to the proposed development.

Table 4: Roles and Responsibilities

The Party	Functions and Responsibilities
The Environmental Commissioner (EC)	The OEC is responsible for ensuring and enforcing compliance with the relevant environmental legislations and regulations of EMA. Amongst the roles and functions of the EC are to : - grant the ECC and renewals thereof; - ensure overall compliance with the provisions of the EMP; - review this document and any revisions thereof; - undertake site audits at their discretion; - review any environmental audit reports submitted to MEFT; - review any major environmental related incidents/accidents, and - enforce the legal mechanisms for contraventions of the EMP.
Municipality of Walvis Bay (MWB)	The project site is within the jurisdiction of the Municipality of Walvis Bay (MWB). In this regard MWB has various roles and functions to play with respect to the development. Some of these are to: - ensure council bylaws are complied with; - issue fitness certificates to businesses where applicable; - supply adequate clean potable water; - remove waste from the business premises; - conduct site inspections/visits at their discretion; - review and approve all building plans submitted for the development; - review and approve the layout proposed for the land allocated for development; - keep the streets well lit at night, street roads clean and tidy; - ensure that high standards of safety and health are upheld and maintained throughout the lifespan of the development, and - enforce legal mechanism for any contraventions of municipality bylaws.
The Promotor or !Nara	The promotor or !Nara has to ensure that: - an ECC and any other applicable permits are obtained and kept on file; - the layout and designs are prepared by experienced and qualified professionals and that approvals from Municipality is obtained; - a reputable and experienced construction company is appointed to carry out the required civil construction work; - adequate training on the EMP is provided to all prospective employees as well as to any third parties who may be hired for any civil engineering work including maintenance and or renovation; - ongoing compliance is maintained with all applicable legislations, regulations and policies pertaining to the development; - a competent and experienced Safety, Health & Environment (SHE) Coordinator is appointed to take charge of all safety, health and environmental aspects of the development especially during the construction phase;

The Party	Functions and Responsibilities
	▪ A waste management plan to deal with both hazardous and non-hazardous waste is developed and implemented, and ▪ An emergency response plan for the project is developed and implemented.
Safety, Health Environment (SHE) Coordinator	Amongst the roles and functions of the SHE Coordinator are to: ▪ manage and facilitate communication between the parties, i.e. the promotor, the appointed civil contraction company and IAPs with regard to matters related to the proposed development; ▪ ensure overall compliance of the provisions of this updated EMP ▪ undertake site inspections of all construction site including installation of all infrastructure; ▪ assist the appointed civil construction company in finding solutions pertaining to matters arising during construction activities of the project; ▪ advise the civil contraction company on the removal of any person and /or equipment not complying with the provisions of the EMP; ▪ make recommendations to the promotor with respect to issuing of fine(s) for any infringement of the updated EMP; ▪ assess, review and approve any training materials (in written content, manuals, workbooks, visual and in digital formats) to be offered to all personnel working on the project; and ▪ undertake an annual review of the EMP and recommend any additions or amendments as dedicated by the situation/circumstances on the construction site.
Site Manager (SM)	During the construction phase, a Site Manager has to be appointed to perform the following minimum functions: ▪ day-to-day management of all activities and management of personnel at the construction site; ▪ management of the resources (manpower, machinery and equipment) allocated to the development; ▪ ensure that all operational activities are conducted in a safe and hazardous free environment; ▪ that prospective employees are hired in compliance with the Labour Act and in a manner that is open and transparent and without any prejudices or discrimination on the basis of colour, gender, race, religion and or political affiliation; ▪ ensure that transparent communication is maintained with all stakeholders and authorities; ▪ ensure that all employees are provided with suitable PPE and, where warranted, that wearing of such PPEs is enforced; ▪ hold daily meetings (tool box talks) with the various teams to discuss the current operational activities associated with such activities, and ▪ to receive visitors to the construction site including government and municipality officials.

3.2 Environmental Awareness Plan

3.2.1 GENERAL APPROACH

Legislation requires of the promotor to develop an environmental awareness plan that describes the manner in which the employees are informed of any environmental risks which may result during the construction phase. This also includes the manner in which risks are mitigated to avoid pollution or the degradation of the environment. In recognition of the need to protect our environment, environmental management should not only be seen as a legal obligation but also as a moral obligation.

It is important to ensure that all relevant personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental degradation and harm.

To achieve effective environmental management, it is important that employees are aware of the responsibilities in terms of the relevant environmental legislation and the contents of the EMP as well as the conditions attached to the ECC once renewed.

3.2.2 ENVIRONMENTAL AND SOCIAL TALK TOPICS

Safety, Health Environmental (SHE) Coordinator meetings or toolbox talks that are held at the construction site are to include environmental and social issues as part of the agenda. As a minimum, the following topics are proposed for discussion:

- Water quality; water use &consumption
- Soil and groundwater contamination;
- Air quality;
- Power consumption, energy efficiency and alternative energy sources;
- Waste management;
- Incidents and accidents reporting;
- Noise pollution;
- Parking arrangements at the construction site;
- Speed limit, and

3.2.3 DUTY OF CARE

All personnel involved with the construction activities of industrial stands should be responsible for implementing measures to prevent pollution or degradation of the environment from occurring, continuing or recurring. Failure to comply with the above conditions is a breach of the duty of care. If such harm is unavoidable, steps must be taken to minimise and to rectify such pollution or degradation of the environment.

3.2.4 DOCUMENTATION AND REPORTING

Industry developed standards should be used to complete incidents records related to:

- Complaints received from IAPs including date and action taken;
- Emergencies and or accidents including date and or action taken;
- Environmental incidents involving employees and /or members of the public;
- Environmental complaints and correspondences received from IAPs, and
- Incidents that cause harm or may cause harm to the environment.

3.3 Presentation of the Updated EMP

The updated EMP has been presented in three tables arranged under these headings:

- EMP for the Planning and Design Phase (Table 5)
- EMP for Construction Phase (Table 6)
- EMP for Rehabilitation / Decommissioning Phase (Table 7)
- EMP for the Operational Phase (Table 8)

3.3.1 EMP FOR THE PLANNING AND DESIGN PHASE

With respect to the 'Planning and Design Phase" management actions have been provided for aspects related to compliance, decarbonisation initiatives, appointments, communication and reporting. The promotor is the party responsible for all aspects related to the phase.

3.3.2 EMP FOR CONSTRUCTION PHASE

At the time of preparing this updated EMP, the project was still in the planning and design stage with no activities having taken place on the site. Management actions have therefore been provided to cover the construction stages of the project. The table has been divided into five columns with these headings:

- Environmental Aspects
- Potential Impacts
- Recommended Management Actions
- Timing when the intervention should be made, and
- The Party Responsible for ensuring compliance.

3.3.3 EMP FOR OPERATIONAL PHASE

At this stage the scoping assessment has been targeted at the land formalisation process and related environmental impacts associated with the installation of services and infrastructure to the industrial stands that will be created. With respect to the operational phase, the nature and scope activities that will be performed at each created industrial stand are unknown at this stage. It is therefore the understanding that a separate EIA will be required to assess the potential impacts associated with the proposed activity to be undertaken, i.e. if a specific industrial stand is to be used for the manufacturing or processing of drilling fluid, then an EIA will have to be conducted to deal with potential impacts associated for such a facility.

3.3.4 EMP FOR CLOSURE AND DECOMMISSIONING

In the context of this project, closure and decommissioning is intended to deal with those environmental impacts related to the decommissioning or demobilisation of constructor construction camp from the project site on completion of construction activities. The end results for the project is delivery of fully serviced industrial stands where manufacturing activities can be performed. It is therefore not expected that serviced stands will be rehabilitated and the site completed closed down and rehabilitated. In this EMP mitigation measures have been provided with respect to decommissioning of contractor's construction camp, plant and machinery.

There is an inherent environmental risk associated with decommissioning of construction sites and it important that the decommissioning operation is well planned and executed in manner that is both expeditious and well-coordinated.

4. RECOMMENDATION

Ekwao is confident that the management measures outlined in this updated EMP to mitigate the environmental impacts associated with the !Nara Namib Free Economic Industrial Zone on portions 2, 4 & 5, Farm 58 of Walvis Bay Townlands are more than adequate, and if implemented will result in minimal impacts to the receiving environment.

It is recommended that the application for the renewal of an ECC submitted by !Nara Namib Free Economic Industrial Zone (Pty) Ltd be approved to allow the operation of the facility within the ambit of applicable laws and regulations.

Table 5: EMP for the Planning and Design Phase

<table>
<tr><th>Aspects</th><th>Potential Impacts</th><th>Environmental Objective(s)</th><th>Management Actions/Mitigation Measures</th></tr>
<tr><td>Compliance</td><td>Minimal – phase does not involve physical activities</td><td>Ensure compliance with applicable regulations, policies and local authority bylaws.</td><td>All drawings should comply with local standards and specifications where those exists (i.e. NSI, etc.) or SABS where local standards and specifications have not been developed yet.
Any permits or licenses that may be required, i.e. ECC should be in place and valid prior to starting with any physical activities on the ground.
All consumables that may be required for the development, i.e. water and electricity must be procured in a lawful manner with connections made by qualified service providers.
Comply with reporting requirements for all permits/licenses including the ECC.</td></tr>
<tr><td>Appointments</td><td>None</td><td>Appointments should be merit based without any prejudices</td><td>Ensure that all applicable service infrastructure is designed by qualified and experienced professionals preferably with knowledge of the local coastal conditions.
Appoint a civil construction company for the development that is reputable, experienced and with a track record and preferably with local knowledge.
Appoint a Safety, Health Environmental (SHE) Coordinator who is qualified and experienced to oversee the development /construction. The appointment should be made in full compliance with the labour laws.
Appointments for construction companies and or staff personnel should be made on merit and in a manner that is both transparent. (Justification for hiring non-locals should be provided to the line ministry).</td></tr>
<tr><td>Decarbonisation</td><td>None, but positive impacts are reaped in the long term when measures are implemented</td><td>Strive to limit the carbon footprint of the project.</td><td>Embrace decarbonisation initiatives in the design phase, i.e. by positioning and orientating building structures to facilitate easier installation solar panels with maximum exposure to sunshine.
Adopt green technology when selecting equipment for the development with emphasis given on the use of hybrid systems or those systems that can be powered by a combination of wind and solar or solar and grid power.
Allow the design for the development to facilitate easier water recycling including procurement of solar geysers instead of conversional electricity powered geysers.
Design the development in a manner that provides adequate day natural lighting and uses energy saving bulbs.</td></tr>
<tr><td>Communication</td><td>None</td><td>Provide regular communication to stakeholders & IAPs</td><td>Contact numbers of these service providers must be clearly displayed on a notice board:<table><tr><td>WVB Police</td><td>064 219 048</td><td>Fire Brigade</td><td>064 206 425</td></tr><tr><td>Ambulance</td><td>085 955 or 081 124 5999</td><td>General Emergency</td><td>081 922</td></tr></table></td></tr>
<tr><td>Complaints</td><td>None</td><td>Develop a fair and transparent</td><td>Any complaint lodged regarding any aspect of the development must be recorded, promptly investigated and corrective action taken.
Allow any opportunity for IAPs to continue raising concerns (complainants) about any aspect of the project that may be affecting them.</td></tr>
</table>

Table 6: EMP for the Construction Phases

Environmental Aspects/Activity	Potential Impacts	Management Actions	Monitoring Frequency	Responsible Party
Socio-economic Aspects	Economic opportunities	▪ Source and procure goods required for the development from local suppliers including the construction materials. ▪ Make use of local small-scale contractors for activities such as site clearing, site security policing and cleaning.	Throughout the duration of the project	!Nara
	Employment	▪ Ensure that employment is offered in compliance with applicable labour laws and regulations. ▪ Hire without discrimination on the basis of gender, race, language, background, religion or political affiliations. ▪ Conditions of employment must be in writing with a copy kept on file and one copy given to the employee. The contract must state job specifications, working hours, remuneration, etc. ▪ Keep proper records on the number of employees, fulltime/part-time, contractors hired, payments made to contractors, salaries/wages, etc.	When hiring/recruiting	!Nara
	Training, skills and technology transfer	▪ Give all employees an induction on the EMP, housekeeping rules including safety, grievances procedures and company policies. ▪ Provide on-the-job training opportunities to help employees improve their skills level which ultimately leads to high productivity, reduced wastage, motivation, high morale and efficiencies. ▪ Training and raise awareness to sensitize employees about contentious issues like working in urban spaces and control of pollutants.	At the beginning of employment Quarterly	SM
	Social ills	▪ Ensure that jobseekers do not flock to the construction site in search of jobs and camping or erecting shacks /structures on the land. ▪ Develop a policy on social ills to deal with aspects related to drug, alcohol abuse, etc. Provide educational programme for employees on various topics of social behaviour HIV/AIDS and general upliftment of employees' social status.	Throughout the duration of the development	SM/SHE
	Safety & Security	▪ Access to the project site must be controlled and security manned 24/7. ▪ Provide a safe and hazardous-free working environment ▪ Ensure appropriate supervision of all activities is provided; ▪ Report all accidents and incidents to the Site Manager and record in the incident register;	Daily throughout the construction period	SM

		▪ Put preventative measures in place when service and maintenance activities are done (drip trays, non-porous surfaces, funnels, non-damaged containers); ▪ Refueling to be performed in areas with adequate preventative measures in place. ▪ Provide adequate and good quality break areas where employees can take their lunch breaks, etc. ▪ Provide suitable PPEs ▪ Access to the dune is not allowed during working hours ▪ present on site at any given point in time; ▪ All visitors must report to the security and sign a visitor's registry		
Impacts on Existing Services and Infrastructure	▪ Damage ▪ Theft ▪ Vandalism	▪ All existing infrastructure on the land pieces (water pipelines, power lines, railway line, roads, etc.) must be identified and where any servitudes exist, such should be clearly demarcated prior to starting with land serving. ▪ Consultation should be held and written permission obtained from relevant utility providers / owners of infrastructure (e.g. Transnamib for the rail, Namwater, WVB Municipality, Nampower/Cenored, etc.) where existing infrastructure needs to be removed or relocated. ▪ All construction activities must be well planned with all areas to be excavated clearly demarcated and preferably marked on the drawings. The appointed contractor must be provided with a map/diagram showing all existing infrastructure/services.	Daily Weekly Throughout the construction phase	SM
Traffic Impacts	▪ Accidents ▪ Incidents ▪ Injuries ▪ Loss of assets (even life)	▪ No direct traffic access is allowed from project premises/site to the adjacent dual carriage freeway. ▪ A minimum speed limit of 30 km per hour to be imposed on all internal routes on the construction site. ▪ Clear and appropriate vehicle movement signage on intersections leading to the construction site are to be set up in conjunction with the Walvis Bay Municipality traffic department. ▪ Where feasible construction vehicles may not leave the construction site at peak traffic periods in the morning (07h00 to 08h30) and afternoon (17h30 to 18h30). ▪ No construction vehicle should be allowed to park off site, except in dedicated parking spaces as may be agreed between the proponent and the WVB Municipality traffic department. ▪ If any traffic impacts are noted around and on the project premises, traffic management measures should be implemented to prevent such impacts.	Daily Weekly Monthly	SM
Impacts on Fauna and Flora	Loss or change of terrestrial habitats	▪ All sites that are to be cleared of vegetation must be preceded by careful planning including demarcations of such sites. The site that results in the least removal of vegetation and least destruction of habitats must be selected.	Prior to starting with construction activities	SM

		▪ The line or route of activity should be determined beforehand and activities restricted to such demarcated areas. ▪ Limit habitat destruction and vegetation clearance by confining excavation activities to clearly demarcated sections of the project footprint. ▪ Where feasible site project structures away from any known sensitive areas (breeding areas, etc.). ▪ Introduction of potentially invasive alien ornamental plant species should be avoided at all costs. ▪ For landscaping, it is recommended to plant local indigenous species of flora.		
Site Security, Safety and Public Health	Potential injuries/accidents to personnel,	▪ Maintain strict security that prevents unauthorized entry to the fuel site during all phases. ▪ Develop an Emergency Response Plan (ERP) as well as an Accident Response Plan (ARP) for the site to deal with i.e. fire outbreak, accidents, etc. ▪ Ensure that adequate sanitation facilities are available and well maintained at all times. ▪ Develop and implement a maintenance and inspection plan for all sanitation facilities. ▪ Provide employees with suitable PPEs. ▪ No alcohol, drugs, firearms, dangerous knives, etc. must be brought to work. ▪ Waste, both non-hazardous and hazardous on the premises must be handled in the line with the EMP.	Access to be manned 24/7 Daily Duration of construction phase	SME SHE /SM
Impact on Surface and Groundwater Sources	▪ Potential Contamination ▪ Potential pollution	▪ Ensure that the design and layout of the development infrastructure is prepared by qualified and experienced professionals preferably with knowledge of the local environment and geographical terrain of the site. ▪ The designed and infrastructure layout should provide for an engineering solution catering for storm water management system as well as to mitigate against potential contamination and pollution of surface water and groundwater sources. ▪ Appoint a civil construction company which is reputable and with a good track record and knowledge of the local environment. ▪ A preventative maintenance plan for the service infrastructure must be developed and implemented. ▪ A waste management plan (both for hazardous and non-hazardous) must be developed and implemented. No waste products of any kind may be dumped in close proximity of any water sources. ▪ No wastewater of any sort may be discharged directly into the natural environment. ▪ Hazardous products are to be stored in secured and bunded areas to prevent such waste escaping into the natural environment.	Throughout the construction period	SM

		▪ Under no circumstances should hazardous waste from the construction activities be discharged of on the construction premises. Hazardous waste products are to be temporarily stored in leak-proof containers and disposed of at an approved offsite hazardous waste facility. Keep records of all hazardous waste disposed on file. ▪ Any surface water accumulation from the construction site should be channeled and captured through a proper storm water channel and not discharged into the natural environment. ▪ Any fuel spill /leak in excess of 200 liters is reportable incident.		
Construction Induced Impacts (site clearing, trenching, etc.)	▪ Potential pollution/emissions to the natural environment, ▪ Dust nuisance to the surroundings,	▪ Land that is to be cleared of vegetation to accommodate excavation activities should be clearly demarcated and work confined to such demarcated areas. ▪ Personnel should be trained and inducted on the requirements of this EMP and sensitized on contentious issues of working in urban environment. ▪ Promote and cultivate a culture of toolbox talks at the beginning of each work session/shift highlighting issues such as safety, littering and protecting of the environment. ▪ Develop and implement work procedures and train personnel on such procedures including enforcing compliance. ▪ Continuous supervision of all activities is to be maintained throughout the construction phase. ▪ Adequate break areas should be provided; ▪ Accidents and incidents are to be reported to the Site Manager. ▪ The access point to the construction site must be manned by security personnel at all times and no unauthorized personnel is allowed. ▪ Employees should be transported in suitable vehicles such as buses – limiting the number	Daily, throughout the construction duration	SM SHE
	Gaseous emissions	▪ Manage activities that generate excessive gaseous emissions. ▪ All construction vehicles, machinery and equipment in use at the construction site are to be regularly serviced and maintained. ▪ All construction vehicles/equipment and machinery when not in use are to be switched off or throttled back between those periods when not in use. ▪ Enforce a speed limit on all internal routes on the project site.	Weekly	SM
	Noise Pollutions	▪ Limit working hours to daylight hours, i.e. from 06h00 to 17h00. ▪ Manage activities that generate excessive noise pollution. ▪ Provide suitable PPEs to personnel working in noisy areas. ▪ Vehicle horns are only to be used in safety situation and not for any other purpose during working hours.	Daily	SM

		▪ Machinery should not be overloaded causing engine to work hard generating excessive noise levels. ▪ No loud music is allowed to be played on site and no noise amplification equipment may be kept.		
	Dust Pollution	▪ Make use of one access route only with appropriate turning circles and delivery zones. ▪ Provide suitable PPEs to employees working in areas where excessive dust is generated. ▪ Make use of dust suppressive measures where feasible as a proactive measure to avoid dust generation. ▪ Ensure that handling of construction materials does not result in fugitive dust escaping into the atmosphere becoming a health nuisance to the workers at the site and the neighbouring communities. ▪ Handling of construction materials including transport of such materials should be suspended or avoided during times of high wind conditions (berg wind or coastal east wind) or when a visible dust plume is present. ▪ Locate construction materials in sheltered areas where it is not exposed to erosive effects of the wind. ▪ Enforce a speed limit on all internal routes to reduce dust generation on the project site. ▪ Employ good housekeeping both inside and outside the construction site	Daily After a complainant has been received	SM
	Lighting (Visual nuisance /annoyance	▪ Lighting requirements should be carefully planned to ensure that its meets the needs of the development in terms of keeping the construction sites secure and safe, without resulting in excessive illumination. ▪ Zones of high and low lighting requirements should be identified with the focus on only illuminating areas to the minimum extent possible to allow safe operations at night and security surveillance. ▪ Up-lighting of structures should be avoided. Light should be directed downwards and focused on the object requiring illumination. ▪ Avoid directing the light towards the areas from where it would become offensive to external receptors including those using the adjacent road networks. ▪ Light spill must be minimised. All security lighting should have 'blinkers' or be specifically designed to ensure light is directed downwards while preventing side spill. ▪ Take the predominant wind direction into account, when siting stockpiles of building materials that are prone to wind dispersal (building sand, aggregate stones, etc.).	Before construction starts Whenever a complaint has been received	SM

		Stockpiles of such materials must be kept as low as possible in order to reduce visual impacts and possibly wind erosion. Avoid up-lighting of structures as it has the potential to blind migratory birds that fly at night in the project area particularly between October and April. Waste around the facility such as windblown papers and plastics should be regularly picked up to avoid visual annoyance		
	Soil quality loss due to excavations, mixing, trampling, compaction and pollution.	Put preventative measures in place when land/terrain activities take place. Avoid the possibility of compaction and creation of a hard subsurface in and outside of the construction site. Do not prepare concrete (mixing of sand, cement, aggregates) on open soil. Avoid conducting activities that are prone to wind erosion during those conditions of heavy wind blowing. All construction equipment laydown areas should be loosen after the construction period and should not be allowed to remain compacted. Where possible establish wind erosion barriers to curb possible erosion during high wind periods. Equipment and vehicles must be in a good condition to ensure that accidental oil spills do not occur and contaminate the soil. In case of any spills or leaks the entire fuel-soaked soils must be collected and temporarily stored in a leak-proof containers for disposal to an approved offsite landfill area.	Throughout the construction phase	SM
	Fire Risks and Potential for Fire Outbreaks	Develop a Fire Management Plan which includes a fire evacuation plan in collaboration with the local authority fire department. Train all employees on firefighting methods and how to comply with the fire management plan. Provide adequate fire extinguishers and keep such devices at strategic locations. Fire extinguishers and all firefighting equipment must be easily accessible, well maintained and kept in functioning states. All personnel and contractors on the site should comply with the fire management and emergency preparedness and occupational health and safety plans. Fire toolkits talks should be encouraged and regularly conducted on site and attendance and performance recorded. Conduct regular fire drills mimicking real life fire situations outbreak. Attendance and performance should be recorded. t the such and performance .	Weekly	SM
	Spills and or Leaks of Hazardous Products	If a spill does occur, efforts must be made to stop the spill at the source as soon as possible using suitable equipment.	Daily, throughout the construction phase	SM SHE

		▪ Make use of a combination of absorbent materials, earthen bunds or other containment methods to contain the spill materials to the smallest area possible. ▪ Recovered spill materials should be temporarily stored in leak-proof containers and disposed of at an approved offsite landfill. ▪ A detailed written report for any major spill that might occur must be prepared and reported to stakeholders. A copy of the report should be kept on file. ▪ It is advisable to keep a spill kit which is adequately stocked. ith the following items at the facility: ▪ When repairs or maintenance activities are being undertaken, exercise precautions to avoid spills. ▪ Train employees on spill management, spill response and on any refueling activities onsite.		
	Waste Handling & Disposal	▪ Excavations and removal of overburden and topsoil must be minimised and confined to demarcated areas. ▪ Use topsoil and overburden material removed during the pre-construction for backfilling. ▪ Prevent and minimise business/industrial waste generation as far as possible; ▪ Provide suitable containers and temporary storage areas as close to the point of generation as practical possible; ▪ Re-use waste during construction where possible;	Daily, throughout the construction phase	SM/SHE
	Cultural and Heritage Resource	▪ Any items of historical or archeological value unearthed during the construction period should be reported to NHC. ▪ Work should be stopped immediately where any archeological items has been unearthed and should only be continued on the instruction of the officials from NHC. ▪ Any items of archaeological value unearthed during the construction may not be disturbed or moved unless permission has been granted by the NHC.	Discuss during toolbox talks Whenever an a 'find' has been discovered	SHE/SM

Table 7: EMP on Rehabilitation (Decommissioning) Post Construction

Activities/ Aspects	Potential Impacts	Management Actions	Timing	Responsible Party
Rehabilitation of the Contractor's Construction Camp	• Dust • Noise • Injuries • Accidents, etc.	• Clear and completely remove from the site all construction plant, equipment and any storage containers, etc. • Dismantle and remove all erected structures, fencing, barriers, temporarily services and fixtures; • Check areas for any spills of substances, i.e. oil, paint and fuel which should be cleaned up. • All hardened surfaces within the construction site should be ripped, all imported materials removed and the area top-soiled and re-vegetated	Daily during the rehabilitation phase	SM/SHE
Land Rehabilitation	• Waste pollution • Soil contamination • Soil erosion, etc.	• All surfaces hardened due to construction activities are to be ripped up and imported materials thereon removed. • Any access roads utilised during the construction phase that are not required for the operational phase of the industrial estate are to be rehabilitated to pre-construction conditions and revegetated; • Landscape the site as directed by the ECO or Site Manager.	Daily during the rehabilitation period	SM/SHE
Removal of Construction Materials	• Dust • Noise	• All erected structures at the construction site are to be removed. The construction campsite area must be checked for any spills of substances such as oil, paint and fuel which should be cleaned up. • Waste material of any description, including receptacles, scrap, rubble and tyres, must be removed and disposed of, at a recognized landfill facility. • No waste must be buried or burned on the site. • Any barriers and demarcations associated with the construction phase are to be removed from the site unless agreed otherwise with the developer. • All residual stockpiles are to be removed from the site and transported for disposal to an approved landfill site. • All leftover building materials (sand, aggregate, bricks, paving, steel, corrugated iron sheet, cement, etc.) must be removed from the site. • The contractor must repair any damage caused to any neighbouring properties. • All surfaces hardened due to construction activities are to be ripped up and imported materials thereon removed. The area must be top-soiled and paved using heavy duty interlocks. • All building rubble is to be removed from the site and transported for disposal to an approved landfill site. • Burying of any rubble on site or anywhere outside the premises is prohibited.	Daily throughout the rehabilitation	SM/SHE

Table 8: EMP for the Operational Phase

Activities/ Aspects	Potential Impacts	Management Actions	Timing	Responsible Party
Creation of businesses/ industries	▪ Social economic benefits at the locals, regional and national levels ▪ Boost to the local, regional and national economy	▪ Opportunities for employment and benefits to the locals – hence an improvement in standard of living ▪ Promote trade and extend business opportunities to the locals. ▪ Try to source raw materials that may be required as input at the industrial stands from the local producers/suppliers. ▪ Enhance the use of local labour and local skills as far as practically possible. ▪ Ensure that goods and services are sourced from the local and regional suppliers.	During the operational phase	!Nara
Waste	▪ Odour ▪ Nuisance ▪ Eyesore	▪ Each owner of an industrial stand will be expected to develop a Waste Management Plan for activities conducted at their respective stands. ▪ Ideally, solid waste should be managed in line with the principles of waste hierarchy: waste prevention, re-use, recycle, recovery and disposal. ▪ Suitable waste skips have to be provided in line with the Walvis Bay Municipality guidelines and policies. ▪ Waste removal from each industrial stand/erf is expected to be removed by Municipality. ▪ Under no circumstances may waste be buried on site.	Daily Dispose Weekly	SM SHE
Traffic Impacts	▪ Congestion ▪ Noise ▪ Incidents/Accidents ▪ Gaseous emissions	▪ A comprehensive Traffic Management Plan (TMP) for the industrial estate must be developed by the promotor in collaboration with the WVB Municipality Traffic Department to manage the traffic impacts within the industrial estate. ▪ The TMP should identify high-traffic zones, assess risks and define procedures for vehicles and foot traffic within the industrial estate. ▪ To minimise points of conflict and improve overall safety within the industrial estate, designate separate entrances and exits for different vehicle types and a distinct pathway for pedestrians. ▪ Provide adequate parking and queuing space within the industrial estate. Ensure that there is sufficient on-site parking for employees and visitors as well as designated on on-site queuing areas for trucks. ▪ Clearly mark, light and barricade firm, level pedestrian walkways within the industrial estates. Where walkways and vehicle roadways cross provide clearly visible and well lit crossings. ▪ Position heavy traffic away from sensitive areas within the industrial estate. Place docks and other heavy vehicle areas away from public-facing areas or adjacent highways or residential zoning to minimise noise and visual intrusions. ▪ Physical barriers like concrete blocks, barricades and bollards can effectively direct traffic flow, protect site perimeter, and prevent vehicles from entering pedestrian areas.	Daily Each time after an incident or accident With Quarterly Reports	!NARA SM SHE

Air Pollution	• Nuisance • Potential for health issues	• An increase in gaseous emissions resulting from high volume of traffic driving in and out of the industrial estate • Internal routes within the industrial estate should be paved to prevent dust being kicked up by traffic delivering or collecting goods from individual industrial stands. • A speed limit of 40 km per hour must be set and implemented for all vehicles operated on internal routes in the industrial estate. • Vehicles (trucks and passengers) should be switch off when not in use so as to avoid long idling which leads to increased gaseous emissions. • Open areas on the industrial estate must be landscaped and re-surfaced to prevent dust generation.	Quarterly After a complainant has been reported	SM
Visitors	Fire outbreaks	• A fire rescue and management procedure in collaboration with the WVB Municipality for the industrial estate including monitoring, • Adequate safety signage should be displayed on all levels of the building as per the developer's health and safety management plan principles and local municipality regulations in this regard. • All firefighting system are to be tested and maintained regularly as well as firefighting equipment, and • All emergency escape routes to be kept uncluttered and unblocked to allow easy exit from the industrial estate.	Daily After an incident Or a complainant has been reported	SM
Safety & Health	• Injuries • Accidents/incidents	• A Health and Safety Management Plan must be developed and implemented • All entrances and exits in and out of the industrial estate should be structurally sound and safe at all times; • Ensure that security personnel are adequately trained and visible throughout the public spaces within and outside the industrial estate • Ensure that an effective complainant recording is put in place and implemented.	Weekly Each time after an incident/accident After any complain	!NARA SM/SHE