



REVISED ENVIRONMENTAL MANAGEMENT PLAN (EMP)



RENEWAL OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE FOR A SAFE STORAGE FACILITY FOR THE HANDLING OF DANGEROUS GOODS, FARM 38, WALVIS MUNICIPAL AREA

MAY 2024



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| Listed Activity | Activity 1: Energy Generation, Transmission and Storage Activities Activity 9: Hazardous Substance Treatment, Handling and Storage | |
| Location | Walvis Bay, Erongo Region | |
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ACRONYMS

| | |
|-------|-----------------------------------------------|
| BID | Background Information Document |
| DEA | Department of Environmental Affairs |
| DSR | Draft Scoping Report |
| EA | Environmental Assessment |
| EAP | Environmental Assessment Practitioner |
| ECC | Environmental Clearance Certificate |
| ECO | Environmental Compliance Officer |
| EIA | Environmental Impact Assessment |
| EMA | Environmental Management Act (No. 7 of 2007) |
| EMP | Environmental Management Plan |
| I&APs | Interested and Affected Parties |
| MEFT | Ministry of Environment, Forestry and Tourism |
| ORC | Oshana Regional Council |
| PPE | Personal Protective Equipment |
| SM | Site Manager |
| TEC | Tortoise Environmental Consultancy |

Table of Content

| | | |
|-------|--------------------------------------------------------------|----|
| 1. | INTRODUCTION..... | 1 |
| 1.1. | Motivation for ECC Renewal | 1 |
| 1.2. | Environmental versus Economic Development..... | 1 |
| 1.3. | Environmental Management Plan (EMP) Context..... | 2 |
| 1.4. | What is an EMP? | 2 |
| 1.5. | Purpose of the EMP | 2 |
| 1.6. | Objective | 3 |
| 1.7. | EMP Scope..... | 3 |
| 1.8. | Possible adjustments to the EMP..... | 3 |
| 1.9. | Implementation Framework and Accountability to the EMP | 4 |
| 2. | PROJECT INFORMATION..... | 5 |
| 2.1 | Project Location | 5 |
| 2.2 | Land Zonation – Dorob Park Management Plan..... | 6 |
| 2.3 | Land Zonation – Dorob Park Management Plan..... | 6 |
| 2.4 | Description of the storage facility | 6 |
| 3. | Compliance and LEGAL FRAMEWORK | 8 |
| 3.1 | Compliance to the EMP | 8 |
| 3.2 | Environmental Management Act (No.7 of 2007)..... | 8 |
| 3.3 | EMP Requirements | 8 |
| 3.4 | Listed Activities..... | 9 |
| 3.5 | Legal Framework Relevant to the EMP..... | 10 |
| 4. | ROLES AND RESPONSIBILTIES..... | 12 |
| 4.1 | Roles and Responsibilities | 12 |
| 4.1.1 | The Environmental Compliance Officer (ECO):..... | 12 |
| 4.1.2 | The Proponent: | 13 |
| 4.1.3 | The Site Manager:..... | 14 |
| 4.2 | Instructions..... | 14 |

| | | |
|-----|-------------------------------------------------|----|
| 4.3 | Disciplinary Actions | 14 |
| 5. | POTENTIAL IMPACTS AND MITIGATION MEASURES | 15 |
| 5.1 | Approach to Mitigation Measures..... | 15 |
| 6. | REHABILITATION PLAN | 23 |
| 6.1 | What is Rehabilitation? | 23 |
| 6.2 | Designing a Rehabilitation Plan..... | 23 |
| 7. | CONCLUSION..... | 24 |

TABLE OF FIGURES

| | | |
|-----------|----------------------------------------------------------|---|
| Figure 1: | Project Location (Farm 38)..... | 5 |
| Figure 2: | Facility infrastructure..... | 6 |
| Figure 3: | Signboard indicating what is stored in the facility..... | 7 |
| Figure 4: | One of the storage facilities..... | 7 |
| Figure 5: | Toilets for males and females on site..... | 7 |

LIST OF TABLES

| | | |
|------------|-----------------------------------------------------------------------|----|
| Table 1: | GPS co-ordinates | 1 |
| Table 1-1: | Role players, Institutional Framework | 4 |
| Table 3-1: | EMP Requirements as outlined in Section 8 of the EIA Regulations..... | 8 |
| Table 3-2: | Listed Activities triggered by the proposed project. | 9 |
| Table 3-3: | Other Legal Instruments / National Statutes..... | 10 |
| Table 4. | EMP Impact Identification Section and Associated Aspects..... | 15 |

1. INTRODUCTION

1.1. Motivation for ECC Renewal

Native Storage Facility (NSF) is a 100% owed Namibian company. The company constructed and is now operating a storage facility for Ammonium Nitrate at farm 38 belonging to Walvis Bay Municipality. In accordance to the Environmental Management Act (Act No 7 of 2007), the company obtained an environmental clearance certificate on 30 May 2017 for the storage facility. Under the provision of the EMA, the duration of an environmental clearance certificate remains effective for a period not exceeding three years which is subject to cancellation or suspension. This provision obliges Native Storage to apply for the renewal of an environmental clearance certificate which expired on 26 July 2022.

The environmental audit undertaken by Tortoise Environmental Consultants did not find non-complying issues. Therefore, TEC recommends for the renewal of the environmental clearance certificate.

The site is located between -23 degrees (latitude) and 14 degrees (longitude), respectively (figure 1). The GPS coordinates are presented in degrees, minutes and seconds.

Table 1: GPS co-ordinates

| Beacon / Point | Latitude | Longitude |
|----------------|-----------------|----------------|
| A | -23 00 33.78375 | 14 38 21.85214 |
| B | -23 00 29.80393 | 14 38 37.80934 |
| C | -23 00 42.73937 | 14 38 42.23105 |
| D | -23 00 46.87201 | 14 38 25.66131 |

1.2. Environmental versus Economic Development

Namibia's economy is highly dependent on a healthy environment and striking a balance in meeting demands for economic development and maintaining biological diversity can be a challenge. Therefore, it is of utmost importance that the environment and development sectors should work together and identify synergies in order to ensure that natural resources are managed and protected in an acceptable and sustainable manner.

Development takes place on land (in the environment) and hence the quest for economic development requires a trade-off with certain parts of the environment in-order for the development to be realized. Meaning, for development to take

place, some part of the environment will be affected. However, it is of utmost importance that such impacts are mitigated through the EMP.

The aim of environmental assessments is to guide the sustainable utilization of natural resources and to mitigate negative impacts that would otherwise compromise the environmental integrity and future ecosystem benefits.

1.3. Environmental Management Plan (EMP) Context

This document constitutes the Environmental Management Plan (EMP) for the existing storage facility for Ammonium Nitrate at farm 38 belonging to Walvis Bay Municipality.

1.4. What is an EMP?

The Environmental Management Plan (EMP) is a tool used to mitigate potential environmental risks associated with the proposed project / activity, and provides a risk management strategy and logical framework for implementation of the storage facility, to mitigate potential environmental and social impacts identified during the EIA process, in accordance with the provisions of the Environmental Management Act (Act No.7 of 2007), EIA Regulations of 2012 and any other relevant / applicable legislation.

As a result, the EMP recommends mitigation measures to ensure that the activities on the storage facility and associated activities are conducted in an environmentally friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations.

Furthermore, the EMP outlines specific roles and responsibilities for role-players against which they can be evaluated and non-compliance is punishable.

1.5. Purpose of the EMP

The purpose of the EMP is to identify potential environmental and social impacts associated with the operation of the storage facility, in-order to ensure compliance to the EMA.

The aim of the EMP is to ensure that the activities undertaken during the renewal of the existing storage facility are conducted in accordance with the following:

- i. Environmental Management Act (No. 7 of 2007),
- ii. EIA regulations of 2012 (GN: 30), and
- iii. Best environmental practices (benchmarks)

- iv. Any other applicable legislation (*as presented in Table 3.1 to 3.3*)

The EMP provides environmental guidelines to be followed throughout the operation of the storage facility and comprises of the following:

- a) Environmental Aspects,
- b) Management Objective,
- c) Mitigation Measures / Actions Required,
- d) Monitoring Indicators, and
- e) Party Responsible

1.6. Objective

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

1.7. EMP Scope

The EMP does not only focus, and it is not limited to the boundaries of the storage facility, but it includes the bigger picture, and serves as the guiding tool to protecting the natural, bio-physical and socio-economic environment on both the specific site in the surrounding area. The bigger picture is important because some impacts may not be confined to the margins of the storage facility.

1.8. Possible adjustments to the EMP

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

The necessity of possible adjustments to the EMP at a later stage may be attributed to:

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

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

1.9. Implementation Framework and Accountability to the EMP

For effective implementation of the EMP, the Institutional roles are presented below. However, the specific roles and responsibilities are defined and broken down as presented in Sections 4 and 5, respectively.

Table 1-2: Role players, Institutional Framework

| Role-player | Company / Institution | Role |
|------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proponent | Native Storage Facility (NSF) | Compliance to the EMP |
| Environmental Consultant | Tortoise Environmental Consultants (TEC) | Development of the EMP |
| Environmental Compliance Officer/s (ECO) | Ministry of Environment, Forestry & Tourism (MEFT) – Department of Environmental Affairs (DEA) | Monitoring Compliance to EMP: <ul style="list-style-type: none"> ➤ Un-announced spot checks, ➤ Corrective measures, warning, penalties / fines, license suspension, etc |
| Public | Interested and affected parties (I&APs) | Report to the ECOs, any activity of environmental concern (e.g Pollution, safety risks, etc) |

2. PROJECT INFORMATION

2.1 Project Location

The storage facility for Ammonium Nitrate is located at farm 38 belonging to Walvis Bay Municipality.

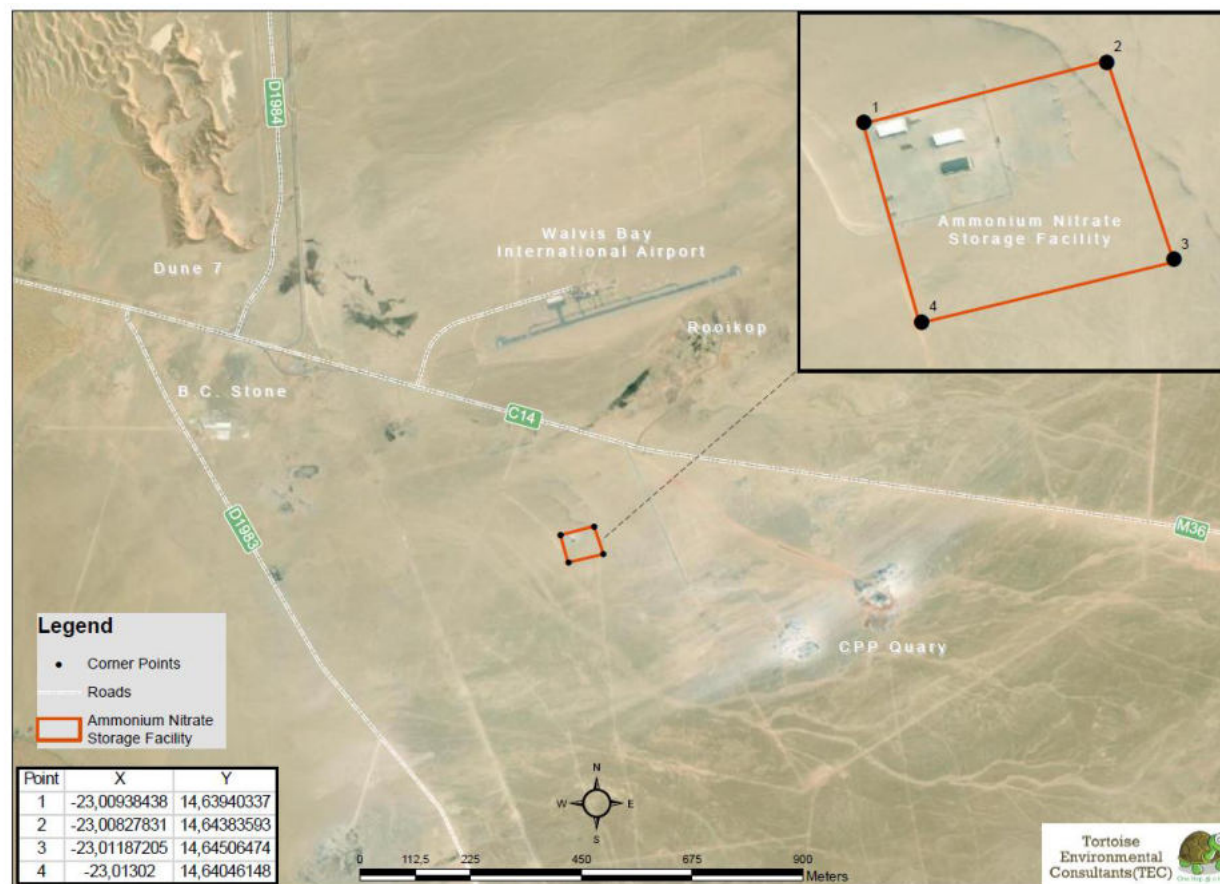


Figure 1: Project Location (Farm 38)

2.2 Land Zonation – Dorob Park Management Plan

According to the Park Management Plan for the Dorob National Park, farm 38 falls within an area that is classified as “Low Sensitive”. The classification has been confirmed by the Namibian Coast Conservation Management (NACOMA).

2.3 Land Zonation – Dorob Park Management Plan

According to the Walvis Bay Municipality documentation, Farm 38 is zoned as Heavy Industrial.

2.4 Description of the storage facility

The proponent is not in the import business but provides storage services for items classified as dangerous goods that are shipped through the Walvis Bay harbor daily, for both domestic (use within the country) and those in transit to other countries (particularly the landlocked countries).

The project is not a waste storage facility, but a storage facility for valuable items that are classified as dangerous goods (e.g industrial chemicals, firearms, ammunition, mining explosives etc). At present, Namport provides limited service for the storage of dangerous goods and fully supports the proposal for the establishment of the facility in context.



Figure 2: Facility infrastructure.



Figure 3: Signboard indicating what is stored in the facility.



Figure 4: One of the storage facilities.



Figure 5: Toilets for males and females on site.

3. COMPLIANCE AND LEGAL FRAMEWORK

This chapter outlines the regulatory framework applicable to the existing storage facility . Table 3.1 provides an overview of applicable policies, plans and strategies and Table 3.2 provides a list of applicable national legislation.

3.1 Compliance to the EMP

The EMP is binding to the proponent, and all contractors / sub-contractors. This implies that every entity that may have any kind of engagement or involved in/with the activities of the renewal of the existing storage facility should comply with the EMP throughout the project lifespan. Non-compliance may have serious consequences e.g License withdrawal.

3.2 Environmental Management Act (No.7 of 2007)

Section 27 of the Environmental Management Act 2007 (Act No. 7 of 2007) (EMA) provides a list of activities that may not be undertaken without an Environmental Clearance Certificate (ECC) (herein referred to as: listed activities). The proposed expansion of the hospital triggers the following listed activities.

The EMP should conform to the provisions of the Environmental Management Act (EMA), Act No. 7 of 2007 and EIA regulations of 2012 (Government Notice: 30).

The EIA Regulations defines a ‘*Management Plan*’ as:

“...a plan that describes how activities that may have significant impacts on the environment are to be mitigated controlled and monitored.”

3.3 EMP Requirements

Table 3-1: EMP Requirements as outlined in Section 8 of the EIA Regulations

| Requirement |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>(j) a draft management plan, which includes –</i> <i>(aa) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;</i></p> |

(bb) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and

(cc) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.

3.4 Listed Activities

Listed Activities may not be undertaken without an Environmental Clearance Certificate (ECC), and hence an Environmental Impact Assessment (EIA) is required.

As the organ of the state responsible for the management and protection of its natural resources, the MET: DEA is committed to pursuing the principles of environmental management. The EMA provides a list of activities that require an EIA and wastewater treatment is among the listed activities or activities that may not be conducted without at ECC. The purpose of listed activities for projects is to ensure that the associated impacts on the environment are carefully considered.

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

Table 3-2: Listed Activities triggered by the proposed project.

| Listed Activity | Regulation (Activity Description) | Relevance to the activity |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Activity 1 Energy Generation, Transmission and Storage Activities | 1.1 The construction of facilities for - (b) the transmission and supply of electricity. | Addition of electricity connection to the existing facilities |
| Activity 9 Hazardous Substance Treatment, Handling and Storage | 9.4 The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location. | Safe storage facility and handling of dangerous goods |

3.5 Legal Framework Relevant to the EMP

In addition to the EMA and the Environmental Assessment Policy, there exists a host of legal and policy documents and guidelines that must be considered when undertaking an EIA as indicated in table 3.3, below. The proponent has the responsibility to ensure that the storage facility conforms to all relevant National developmental plans and legal framework.

Table 3-3: Other Legal Instruments / National Statutes

| Legal Requirements | | |
|---------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legislation considered | Relevant Organ of State / authority | Aspect of Project |
| Pollution Control and Waste Management Bill (in preparation) | MET, MHSS and others | <p>The Pollution Control and Waste Management Bill, intends to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force.</p> <p>The Bill also provides for noise, dust or odour control that may be considered a nuisance. The Bill would repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force. Furthermore, the Bill advocates for duty of care with respect to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.</p> |



| | | |
|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Public Health Act (Act No. 36 of 1919)</p> | <p>Ministry of Health and Social Services</p> | <p>The Public Health Act serves to protect the public from nuisance and states 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.</p> <p>The proponent should ensure that the site workers are provided with protective gear to safeguard their wellbeing. The activities</p> |
|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

4. ROLES AND RESPONSIBILITIES

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

4.1 Roles and Responsibilities

Assignment of responsibilities is necessary to ensure that key procedures are followed. Ultimately, the overall responsibility for the implementation of the EMP lies with the proponent (ORTC).

To ensure accountability, it is necessary to assign responsibilities. The key role-players for project implementation are;

- a) The **Environmental Compliance Officer (ECO)** representing the Ministry of Environment, Forestry and Tourism (MET), or an appointed independent environmental officer, who is responsible for monitoring and auditing.
- b) **The Proponent: Native Storage Facility**
- c) **The Site Manager** the person responsible for the management of the existing storage facility project.

4.1.1 The Environmental Compliance Officer (ECO):

The ECO refers to the party responsible for the environmental monitoring and auditing to ensure that the provisions of the EMP are complied with.

The ECO shall have adequate environmental knowledge to understand and interpret the EMP and pertaining environmental aspects associated with the project. The specific tasks of the ECO are as follows:

- To undertake all monitoring and auditing activities in-order to ensure compliance with the EMP.
- Conduct inspections and monitoring at reasonable intervals (e.g. every month, quarterly or annually), throughout the duration of the project. Depending on the risks, some projects may require regular inspections.
- Issue compliance or non-compliance orders to the proponent, contractors / sub-contractors.
- Compile compliance Reports pertaining to any non-compliance incident/s, and a Rehabilitation Report following the conclusion a specific activity.

- Liaise closely with all key stakeholders i.e. the Site Manager and the Environmental Commissioner.
- Provide guidance on any environmental management issues, incidents or emergencies that may arise throughout the project lifespan.
- Assist in providing recommendations for remedial action in the event of non-compliance.
- Auditing or monitoring activities may involve investigation, as well as structured observation, measurement, and evaluation of environmental data over a period of time.

4.1.2 The Proponent:

The proponent, hereinafter referred to as Native Storage Facility, shall assume overall responsibility to ensure the implementation of the EMP and will be held accountable against the remedial measures outlined herein. It is recommended that the client should appoint a Site Manager who will be responsible for monitoring daily operations.

The specific responsibilities of The Proponent are as follows:

- Appoint a Site Manager (SM) to oversee the daily onsite activities.
- Liaise closely with the SM and ECO on any environmental management issues, incidents or emergencies.
- Ensure that all activities on and around the site are conducted in accordance with the requirements of the EMP at all times.
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the EMP, relevant to their roles on site.
- Shall develop a **communication strategy** between The Proponent, Project Manager, workers, the ECO and any other relevant stakeholder.
- Shall develop an **organisational structure** to ensure that:
 - There are clear channels of communication;
 - There is an organisational hierarchy for effective implementation of the EMP; and
 - Conflicting or contradictory instructions are eliminated;
 - Ensure that all instructions and official communications regarding environmental matters shall follow the organisational structure as determined
 - Ensure that that EMP requirements are assigned to specific people / positions with the capacity and experience required for implementation.

4.1.3 The Site Manager:

The **Site Manager (SM)** should:

- Ensure that each team recruited to work at the sites, adheres to the EMP;
- Ensure that a **copy of the EMP is kept on site at all times and as it may be requested by authorities conducting spot checks at any time.**
- Ensure that all staff attend an induction session before commencement of any work on site and that they are adequately informed of the requirements of the EMP;
- Take special care to prevent irreversible damage to the environment

4.2 Instructions

All instructions and official communications shall follow the organisational structure as determined by the Proponent. Based on the adopted structure, it is essential that responsibilities outlined are assigned to specific parties with adequate capacity and experience required to implement the EMP.

4.3 Disciplinary Actions

The EMP is a legally binding document. Non-compliance with the EMP may result in disciplinary action being taken against the Proponent. Such actions may take the form of;

- Financial penalties, Legal action, fines, and/or Suspension of work.

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

5. POTENTIAL IMPACTS AND MITIGATION MEASURES

5.1 Approach to Mitigation Measures

To enable a systematic approach to impact identification, specific aspects have been identified and for each aspect, specific mitigation measures have been recommended Table 5. It is important to note that this EMP is for the continued operation of the Storage Facility.

Table 4. EMP Impact Identification Section and Associated Aspects

| EMP Implementation / Potential Impact Category | Specific Aspects |
|-----------------------------------------------------------|-------------------------------------|
| A. Staff Induction | EMP Provisions (Do's and Don'ts) |
| | HIV / AIDS |
| | Communication Channels |
| B. Operational Phase | Access Roads |
| | Site Demarcation |
| | Notice Board |
| C. Environment and Pollution | Vehicle emissions |
| | Oil Spills |
| | Soil Erosion |
| D. Health and Safety | Safety at Work Place |
| | Dust |
| | Noise |
| E. Socio Economic | Employment opportunities for locals |
| | Drug and Alcohol abuse |
| | Working hours |
| | HIV / AIDS |
| F. Cultural Heritage | Heritage resources / artefacts |

SECTION A: STAFF INDUCTION

| Aspect | Objective | Proposes Mitigation Measures | Monitoring Indicator | Party responsible |
|------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Staff induction | To ensure that all staff / employees are conversant with the requirements of the EMP | <ul style="list-style-type: none"> • Induction for all staff / employees on the provisions of the EMP before work commencement, covering but not limited to: environmental awareness, emergency response, Reporting of incidents, HIV/AIDS awareness, alcohol and substance abuse, and Safety, Health and Environment (SHE) measures • Staff operating equipment (such as loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their tasks • Quarterly induction reviews | Induction Minutes and Attendance Register, Signed by each and every staff member Staff members appointed at a later stage should also undergo induction Quarterly minutes | Site Manager |
| | Punitive measures for staff, to ensure compliance | <ul style="list-style-type: none"> • Adopt a disciplinary system to discipline staff for non-compliance, such as littering, speeding, safety risk both to themselves and to others, not using ablution facilities, etc. | Number of fines/warning issued daily/Monthly | Site Manager |
| | Availability of the EMP on site for ease of reference | <ul style="list-style-type: none"> • Ensure that a copy of the EMP is kept on site and accessible to team leaders | Availability of EMP on site and accessibility to team leaders | Site Manager |
| Communication | To ensure effective communication throughout the project lifespan | <ul style="list-style-type: none"> • Develop a communication strategy (Chanel and medium of communication) • All correspondence should be written and signed off by witnesses (e.g. Site manager) • The contact numbers for the Site Manager or Site Foreman must be available onsite (displayed) in case of emergencies. | Communication Strategy Letters, e-mail, Notices, Minutes | Site Manager |



SECTION B: OPERATIONAL PHASE

| Aspect | Objective | Action Required | Monitoring Indicator | Party responsible |
|-----------------------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|
| Access Roads | Prevent driving all over the place | <ul style="list-style-type: none"> • Access road are established already • New roads may only be established if extremely necessary (An amendment to the EMP must be done) • Access roads should be repaired and maintained at acceptable standards • All driving must strictly be on access roads | | Site Manager |
| General Notice Board | To notify and warn the public of the project activities | <ul style="list-style-type: none"> • A general notice board is on site, and must be well maintained | Notice Board – Visible and Clear | Site Manager |

SECTION C: ENVIRONMENT AND POLLUTION

| Aspect | Objective | Action Required | Monitoring Indicator | Party responsible |
|--------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|
| Vehicle emissions | Reduce greenhouse gas (GHG) emissions from poorly maintained or malfunctioning equipment (vehicles / machinery | <ul style="list-style-type: none"> All vehicles and equipment shall be kept in good working condition and serviced regularly (in accordance with the servicing frequency of the specific machinery), in order to prevent leakage and emission of poisonous smoke etc. Switch off engines when vehicle is not operations | <p>Vehicle servicing records</p> <p>Reports of smoke emissions from machinery</p> | Site Manager |
| Oil Spills | Manage oil spills and leak from heavy vehicles and Machinery | <ul style="list-style-type: none"> Provide drip trays to prevent potential oil leakage Re-fuelling of machinery (e.g excavator / front loader) must be done at appropriate site with impermeable concrete bunding There must be an immediate spill response kit on site and ff an oil spill occurs, collect the contaminated soil, store in drums and dispose at appropriate waste disposal site (e.g. ORC disposal site) | Observation of soil contamination | Site Manager |
| Soil Erosion | To mitigate soil erosion | <ul style="list-style-type: none"> Only use the existing access road to and from the site, do not form other tracks Implement continuous rehabilitation measures | Physical Observation | Site Manager |
| Solid Waste | To prevent littering, pollution, contamination of water and general environmental health hazards | <ul style="list-style-type: none"> All waste produced on site should be contained and disposed as required by law. There must be sufficient temporally ablution facility at the site for designated for males and female. | Scattered waste, Littering and any other unsightly waste at the site (eyesore) | Site Manager |

SECTION D: HEALTH AND SAFETY

| Aspect | Objective | Proposed Mitigation Measures | Monitoring Indicator | Party Responsible |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| General Safety at Work Place | Ensure that the safety of workers is not compromised and adhere to the Health and Safety Regulations, Government Notice 156/1997 (GG 1617) | <ul style="list-style-type: none"> • Develop a Health and safety Plan (should be part of the induction) • Ensure that every employee goes through a safety induction; • Employees must be equipped with all necessary Personal Protective Equipment (PPE). These includes, Helmet, Overall, Safety Shoes, Safety Glasses, Gloves, Welding shield, Earmuff etc; • Provide first aid kits to operators; • Only qualified personnel must be allowed to operate special machinery (e.g earthmoving machinery) • Adequate safety signs must be displayed on site. | <p>Health and Safety included and reflected in the Induction Minutes</p> <p>Adequate protective gear for all staff</p> <p>Availability of the first aid kit onsite</p> <p>Record of warnings</p> <p>Visible safety signs on site</p> | Site Manager |
| Dust | Mitigate dust and noise impacts to both employees and the public | <ul style="list-style-type: none"> • Provide dust masks and ear muffs to all employees operating in a dusty or noisy environment • Reduce vehicle speed on gravel roads • All vehicles transporting sand or gravel should be covered with a tarpaulin, or any other suitable material, and, • Industrial speed limits of 30 – 40km/h must be maintained | <p>Incident Report</p> <p>Public Complains</p> | Site Manager |
| Noise | | <ul style="list-style-type: none"> • Employees must NOT be exposed to noise levels above the required -85dB (A) limit over a period of 8 hours. Should the noise level be higher than 85dB | | |

| Aspect | Objective | Proposed Mitigation Measures | Monitoring Indicator | Party Responsible |
|-----------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------|
| | | <p>(A), the employer must implement a hearing conservation program such as noise monitoring;</p> <ul style="list-style-type: none"> • Provide worker with earmuffs • Vehicles and machines must be well serviced to avoid unnecessary noise emission • Limit the movement of earth moving machinery and heavy vehicles (tipper trucks) to daylight: 06:00AM – 18:00 PM | | |
| Ablution | Reduce health risks and environmental pollution | <ol style="list-style-type: none"> 1. Ensure adequate, hygienic (clean) and user friendly ablution facilities for all staff. 2. Inspect ablution facilities regularly | availability, cleanliness and hygienic ablution facilities | Site Manager |

SECTION E. SOCIO ECONOMIC ASPECTS

| Environmental / Social Impact | Objectives | Proposed Mitigation Measures | Monitoring Indicator | Party Responsible |
|--------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------|
| Employment opportunities for Locals | Promote benefits to the local community | <ul style="list-style-type: none"> Recruit locals for unskilled labour Where possible, procure materials from local suppliers | Employee structure and proportion of local employment | BBB |
| Alcohol and Drug use | Prevent alcohol and drug use at work | <ul style="list-style-type: none"> Ban and warn the employees against the use of alcohol and drug at work Provide awareness on the dangers and health impacts of alcohol and drug use | Drunk / Misbehaving employees Monitor presence of alcohol at work | Site Manager |
| Working hours | Adhere to the Labour Act No. 11 of 2007 | <ul style="list-style-type: none"> Operate within the prescribed working days and hours as per the Namibian Labour laws and regulations | Verification of working hours against the labour Act | Site Manager |
| HIV / AIDS | Provide HIV / AIDS awareness to employees | <ul style="list-style-type: none"> The Ministry of Health and Social Services provides free condoms to all public amenities and health care centers. Arrange for HIV awareness for employees; | Availability of condoms at work Minutes for induction course | Site Manager |

SECTION F. HERITAGE AND ARCHAEOLOGY

| Aspect | Objective | Action Required | Monitoring Indicator | Party responsible |
|---------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------|
| Heritage Resources / artefacts | Reduce the impacts borehole drilling and associated earthworks on heritage resources / artefacts | <ol style="list-style-type: none"> Heritage remains or artefacts discovered on site must be reported to the National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461). No artefacts must be removed or be interfered with prior to authorisation from the Namibian National Heritage Council (NHC) Recovery of heritage remains or artefacts discovered and removal thereof should be directed by the National Museum | Sighting report/s of heritage resources / artefacts | Site Manager |

6. REHABILITATION PLAN

Socio-economic development is very important for our livelihood and provides services that help uplift livelihoods. Developmental initiatives although sometimes established in pristine environments, caution must always be applied to minimize detrimental impacts.

Developmental activities should therefore be conducted in a thoughtful and forward-looking manner. Rehabilitation should be part and parcel of such developmental activity right from the beginning and throughout the project lifespan.

6.1 What is Rehabilitation?

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

6.2 Designing a Rehabilitation Plan

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

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

7. CONCLUSION

The EMP has been developed in accordance with the information gathered during site assessment, consultations with the client and literature review upon which potential environmental impacts and appropriate mitigation measure were determined. Tortoise Environmental Consultancy (TEC) believes that, the EMP will address the potential environmental impacts.

The EMP recommends that interim measures be implemented by ORC to continue with the storage facility. The activities must be undertaken in an environmentally friendly manner, and in accordance with the provisions of the Environmental Management Act (Act No. 7 of 2007) and EIA regulations (GN: 30 of 2012). Evaluation of the identified technologies to be implemented as long-term measures must be undertaken guided by financial feasibility.

In-addition, the EMP aims to prevent any environmental fatal flaws that may arise from the operation of the storage facility to ensure legal compliance. Non-compliance against the EMP is punishable.

Specific responsibilities have been assigned to individuals in-order to ensure that the EMP is implemented effectively. The key role-players should:

- **Read** the EMP (particularly the Site Manager) and ensure that they are fully conversant with the provisions of the EMP,
- If need be, **Ask for clarity** from the relevant authority (MEFT: DEA),
- Ensure implementation of the recommended mitigation measures, and
- Communicate defaults / challenges to MEFT: DEA as soon as possible.

It is recommended that the ORC monitors and conduct periodic and unannounced EMP audits throughout the proposed project lifespan, in-order to ensure compliance in-accordance with the mitigation measures prescribed in the EMP.

