An Updated Environmental Management Plan (EMP)

To Support of an Environmental Clearance Certificate (ECC-01604) to Allow for the Construction and Operation of a Fuel Service Station on Erf 1532, Extension 6, Omuthiya Townlands

Omuthiya, Oshikoto Region

September 2024

INFORMATION SHEET		
Project Title Name	:	An Updated Environmental Management Plan (EMP) to Support of an Application for the Renewal of an Environmental Clearance Certificate (ECC) for the Construction and Operation of a Fuel Service Station on Erf 1532, Omuthiya Omuthiya, Oshikoto Region
MEFT Application No.	:	APP-004779
Applicant	:	Degrande Investments CC Box 19372 OMUTHIYA Oshikoto Region Namibia
Report Status	:	Final
Report Date	:	September 2024

TABLE OF CONTENTS:

TABLES

FIGURES

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

This is an application for the renewal of an Environmental Clearance Certificate (ECC-01604) granted to the promotor whose name and contact particulars are presented in **Table 1**. Granted on 9 September 2024, the ECC had allowed the construction and operation of a modern new fuel service station and associated facilities on Erf 1523, Ext 6 in the local authority of Omuthiya. The said ECC is depicted in **Figure 1.**

During the time of preparing this updated EMP, the construction of the fuel service station was about 70% completed as demonstrated

Table 1: Particulars of the Promoter and Land

Details of the Promoter and Land	
Name	Degrande Investments CC (‘**DIC’**, for short)
Registration Numbers	CC/2017/06443
Company Representative	Mr Erastus Nekomba
Designation	Managing Member
Postal Address	Box 19372 Omuthiya Namibia
Contact Details or Representative	Cell:081 127 0722 Fax: 065 244 103 Email: degrandeinvestments@gmail.com
Physical Address	Erf 1532 Extension 6 Omuthiya Townlands Omuthiya
Local Authority	Omuthiya Town Council Oshikoto Region
Land Zoning	Business
Land Size	560 square meters
Date ECC granted	9 September 2021
Construction Stage	±70% of the work has been completed as of September 2024.
Renewal Application No.	APP-004779

1.2 Objectives of the EMP

This updated EMP has the intended objective of providing management actions that ensure that negative impacts identified during the EIA process for the facility are managed and effectively mitigated while any positive impacts associated with the same facility are enhanced. It is essentially a tool used to take pro-active action by addressing potential problems before such problems actually crop up.

Additionally, the EMP has to act as a stand-alone document, which is used during the construction, operation, (upgrades, renovations, periodic maintenance) and decommissioning activities of the proposed fuel service station. Employees, third parties doing business with the promotor, i.e. contractors, subcontractors and service providers are also expected to be acquainted with the EMP.

The core objective is to include all components of various activities and to prescribe the best practicable control methods to reduce, avoid and or eliminate environmental impacts associated with the construction, operation, (periodic maintenance/renovation, upgrades) and decommissioning of the proposed development as well as to monitor and audit the performance of operational personnel in applying such controls.

ECC – 01604

Serial: 5WcM5A1604

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

Degrande Investments CC
P O Box 19372, Omuthiya

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Construction and Operation of new Fuel Retail Service and Related Activities on Erf 1532, Extension 6, Omuthiya Townlands, Oshikoto Region

13 SEP 2021

ENVIRONMENTAL COMMISSIONER

Issued on the date: 2021-09-09

Expires on this date: 2024-09-09

(See conditions printed over leaf)

This certificate is printed without erasures or alterations

Recycle

Figure 1: Issued ECC

Figure 2: Undeveloped Site Looking NW (Photo taken August 2020)

Figure 3: Undeveloped Site Looking SE (Photo taken August 2020)

Figure 4: Construction Underway – Tanks & Pumps Installed and Branded (September 2024)

Figure 5: Construction Underway – Earthworks

Figure 6: Levelling with Convenience Shop in the Background

Figure 7: Branding for the New Service Station

2 GOVERVANCE FRAMEWORK

2.1 Legal Framework

The project must be implemented within the framework of the Environmental Management Act and other relevant environmentally related to the following legislation, including national acts (and their regulations), national policies and/or guideline documents as referenced in Table

Table 2: 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:
	  o better inform decision makers and promote accountability in decisions taken;
	  o strive for public participation and involvement of all sectors of the Namibian community in the environmental assessment process;
	  o take into account the environmental costs and benefits of proposed policies, programmes and projects;
	  o take into account the secondary and cumulative environmental impacts of policies, programmes and projects; and
	  o 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 Gazetted in 2012	- Commencement of the Environmental Management Act - List activities that requires an ECC - Provide Environmental Impact Assessment Regulations
Petroleum Products and Energy Act of Namibia (Act No. 13 of 1990)	- Provides measures for the saving of petroleum products. - Controls prices - Provides mechanism for establishing the National Energy Fund and the utilization thereof. - Provides for the establishment of the National Energy Council and the functions thereof; - Determines levies on fuel - Regulates petroleum industry - Makes provision for impact assessment - Petroleum Products Regulations (Government Notice - No. 155 of 2000) - Prescribes South African National Standards (SANS) - or equivalents for construction, operation and - decommissioning of petroleum facilities (refer to - Government Notice No. 21 of 2002) - Used Mineral Oil Regulations (Government Notice No. 48 of 1991 - Regulations relating to the purchase, sale, supply, acquisition, possession, disposal, storage, transportation, recovery and re-refinement of used mineral oi

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)	↓ Define the powers, duties and functions of local authority councils ↓ Regulates discharges into sewers
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.
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 Town Council Bylaws

Omuthiya Town Council is a relatively new local authority and is still developing its bylaws. For the proposed facility the following bylaws will be applicable:

- Waste handling and disposal
- Building plans approval
- Environmental Health bylaws
- Bylaws related to storm water management
- Traffic Regulations

2.3 Continuous Improvements

The approach adopted for this EMP is derived from Deming Cycle, a cycle of continuous improvement entailing the reiterative actions of plan, do, check and act.

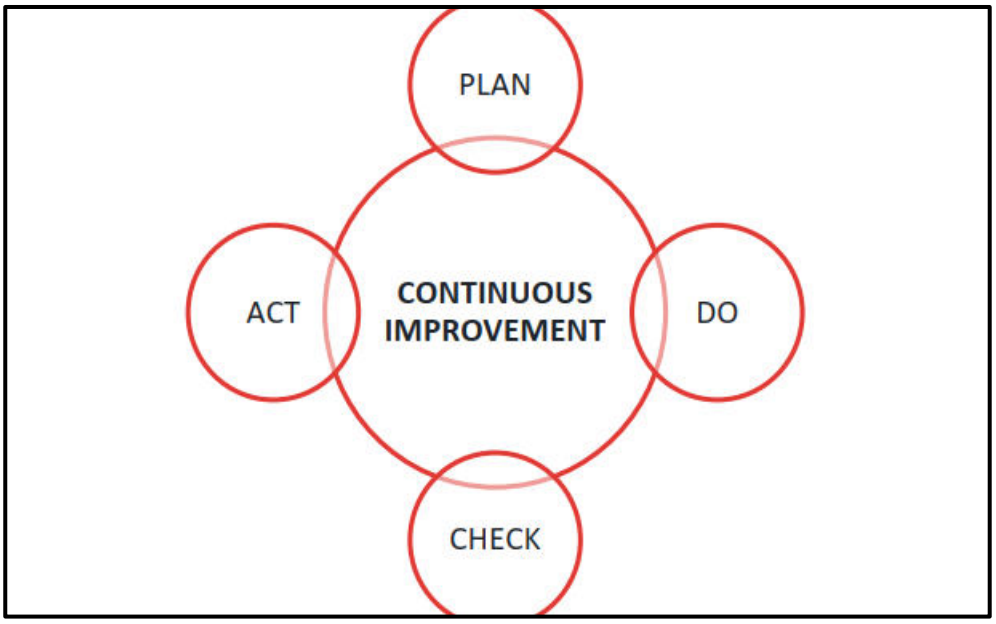

Figure 8: The Deming Cycle of Continuous Improvement

2.3.1 PLAN

Achieving the targets depends on compliance with this updated EMP and the applicable legislative requirements that underpin it.

2.3.2 DO

A quality management system has to be developed to cater for the day-to-day operational activities of the facility. The system ensures that best management practices are implemented. Such quality management system should include at least the following:

- Operating procedures;
- Location and extent of associated infrastructure;
- Resource and experience required (staffing);
- Materials and equipment to be used;
- Management actions;
- Monitoring activities;
- Emergency/Disaster incident and reaction procedures, and
- Continued maintenance of the impacted environment.

By including these information in procedures and/or guideline documents will ensure that aspects specific to environmental management (based on the updated EMP) form an integral part of the facility's operational management.

2.3.3 CHECK

Continuous assessment facilitates proactive management of environment issues. Mitigation measures can then be successfully implemented on an on-going basis to keep environmental indicators within the targets thresholds. Moreover, the check process also enables the assessment of the efficacy of the EMP. Regular auditing of environmental performance is prescribed to prove and preserve accounting ability in a legislative context.

2.3.4 ACT

The assessment and monitoring of the results and findings of the regular audits must be documented within a reporting system of the facility. Precautionary mitigation measures and corrective actions will be prescribed, and instructions will be given to carry these out in the field. The findings of monitoring and auditing programmes can also be used to be used to update the EMP. The EMP is a dynamic document and should be updated regularly to address the changing circumstances of the project if applicable.

3 ROLES AND RESPONSIBILITIES

Formal responsibilities are necessary to ensure that key management measures/procedures are executed. DIC will be responsible for the overall control of the project site. In Table 3, are some of the functions and responsibilities of statutory stakeholders and those of the promotor.

Table 3: Roles and Responsibilities

The Party	Functions and Responsibilities
The Environmental Commissioner (EC)	The Environmental Management Act (EMA) is implemented by the EC within MEFT. The EC is responsible for ensuring and enforcing compliance with the relevant environmental legislations and regulations of EMA. Amongst the roles and responsibilities 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; and - enforce the legal mechanisms for contraventions to the EMP.
Omuthiya Town Council (OTC)	Omuthiya Town Council (OTC) as the local authority has various roles and functions to play with respect to the facility. Some of these are: - ensuring council bylaws are complied with; - issuing of fitness certificate to businesses; - supplying of adequate and clean potable water; - removal of waste from the business premises; - reviewing and approval of building plans for any new buildings, additions and/ or renovations; - keeping the streets well lit at night, street roads clean and tidy; - ensuring that high standards of safety and health are upheld and maintained throughout the lifespan of the facility, and - enforcing legal mechanism for any contraventions of town council bylaws.
The Promotor or DIC	Degrande Investments as the promotor has to ensure that: - the necessary environment authorizations and permits are obtained and copies kept in the office; - adequate training on the EMP is provided to all prospective employees as well as to any other third party who may be hired to do work including maintenance and or renovation at the facility; - compliance is maintained with all applicable legislations, regulations and policies pertaining to the fuel service station; - a competent construction company is appointed to develop the fuel service facility; - a competent Safety, Health & Environment (SHE) Coordinator is appointed to take charge of all safety, health and environmental aspects of the facility during the construction phase; - a person with suitable qualifications, experience and managerial skills is hired and appointed with the designation of a Fuel Service Manager to take charge of the day-to-day operational activities at the facility. - An Emergency Response Plan for the facility is developed and implemented.
Safety, Health Environment (SHE) Coordinator	Amongst the roles and functions of the SHE Coordinator are: - To undertake internal EMP compliance inspections on a quarterly basis; - Conduct inspections and audits of all activities associated with the facilities in its entirety, including activities undertaken by any third party; - Undertake internal EMP compliance inspections during the construction and or decommissioning phases of the development; and - ensure that the mitigation measures as detailed in the EMP are implemented correctly and effectively during both phases of the development.

The Party	Functions and Responsibilities
Fuel Service Manager (FSM)	The FSM has to perform the following minimum functions: - day-to-day management of all activities and management of personnel at the facility; - manage all the resources (manpower, machinery and equipment) allocated to the facility by the promotor; - ensure that all operational activities are conducted in a safe and hazardous free environment; - 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 open and transparent communication is maintained with all stakeholders and authorities including reporting of any significant environmental incidents and or accidents; and - ensure that hired employees are adequately trained on the provisions of the EMP including all safety aspects required to operate the various machines and equipment in the facility; - ensure that all facility employees are provided with suitable PPE and, where warranted, that wearing of such PPEs is enforced; - hold daily meetings (tool box talks) with the shift crews to discuss the current operational activities and the health, safety and environmental issues associated with such activities; - select and appoint employees with suitable qualifications and experience to serve as supervisors overseeing various operational activities at the facility; and - address any complainants received from any stakeholders or interested and affected parties (IAPs) and where warranted provide feedback to the complainant.

4 ENVIRONMENTAL AWARENESS PLAN

4.1 General Approach

Legislation requires the promotor to develop an environmental awareness plan that describes the measures to be taken to reduce or to avoid pollution or 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 made aware of their responsibilities in terms of the relevant environmental legislation and the contents of the EMP and the conditions attached to the ECC once renewed.

4.2 Environmental and Social Talk Topics

Safety, Health and Environmental (SHE) meetings or toolbox talks that are held at the service station should include environmental and social issues as part of the agenda. As a minimum, the following topics must be considered:

- Water use at the facility;
- Potential contamination of soil and groundwater;
- Air quality;
- Power consumption and energy efficiency;
- Waste management;
- Incidents reporting;
- Parking arrangements at the facility, and
- General awareness (Global warming, decarbonisation, World Environment Day, etc.).

4.3 Duty of Care

All personnel involved with the operational activities at the facility 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 should be a breach of the duty of care. If such harm is unavoidable, steps must be taken to minimise and rectify such pollution or degradation of the environment.

4.4 Documentation and Reporting

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

- Record of complaints, and
- Record of emergencies and incidents.

The Fuel Service Manager (FSM) is required to support the following:

- Environmental incidents involving employees and /or public;
- Environmental complaints and correspondences received from the public;
- Incidents that cause harm or may cause harm to the environment, and
- The corrective or remedial action taken.

5 THE IMPLEMENTATION OF THE EMP

The implementation of the EMP has been presented in three tables with these headings:

5.1 EMP for Planning and Resource Mobilisation (Table 4)

With respect to the 'Planning and Mobilisation" management actions have been provided for aspects related to compliance, decarbonisation initiatives, appointments, communication and reporting.

5.2 EMP for Construction and Operational Phase (Table 5)

At the time of preparing this updated EMP, construction activities for the facility were ±70% complete with the fuel service planned to open for business during the first week of December 2024. Management action have been provided to cover the remaining construction activities (±30%) and the operational phase of the facility.

5.3 EMP for Closure and Decommissioning (Table 6)

The investment made by the promotor is substantial and cannot be fully recovered within a period of three years which is the duration of an ECC. Ordinarily, the development is expected to have a lifespan extending many years into the future. However, there are economic impacts that are beyond the control of the promotor which could lead to premature closure of the facility. In fact, the illicit import of cheap fuel from Angola into the northern regions of Namibia has resulted in several fuel retail facilities struggling to survive. In this connection, the EMP providing closure and decommissioning guideline has been prepared taking into account the current uncertainty in the market.

There is an inherent environmental risk with fuel storage and handling, therefore closure and decommissioning should be well planned and executed in manner that is both expeditious and well-coordinated. While residual leftovers in the storage and handling of fuel may represent a small portion of the total capacity, those seemingly insignificant small amounts of product can pose a serious health and safety risk to personnel and the surrounding environment. Hence decommissioning activities require close management. The objective for closure is to return the facility as closely as possible to the pre-development condition.

6 RECOMMENDATION

Ekwao is confident that the management measures outlined in this updated EMP to mitigate the environmental impacts associated with the operation of the fuel service station being constructed by Degrande Investments CC on Erf 1532, Extension 6, in the local authority of Omuthiya, 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 Degrande Investments CC be approved to allow the operation of the facility within the ambit of applicable laws and regulations.

Table 4: EMP for Planning and Resource Mobilisation

Aspects	Environmental Objectives	Management Actions	Timing	Proof of Compliance	Responsible Party
Compliance	Strive to comply with all applicable regulations, policies and local authority bylaws.	▪ Ensure that all building structures are approved by the local authority prior to starting with construction. ▪ Water connection must be lawfully made with the local authority. ▪ Electricity must be lawfully obtained and all connections made by qualified personnel. ▪ Suitable waste skips must be obtained from local authority and disposal from site handled by the local authority's appointed agents. ▪ All permits must be secured and in place prior to starting with operations. These should include the following: o Fitness Certificate from OTC o ECC from MEFT o Fuel Retail License from MME	Before & during construction Throughout the operation	Records on file	Promotor
Decarbonisation	Strive to limit the carbon footprint of the facility	▪ Efforts should be made to embrace decarbonisation initiatives both during the construction and operational phases of the facility. The position and orientation of roof structures should allow for maximum use of solar panels. ▪ Green technology should be adopted when selecting equipment for the facility with emphasis given on the use of hybrid systems or those systems that can be powered by wind energy or solar power. ▪ Promote water recycling at the facilities including procurement of solar geysers instead of conversional geysers. ▪ Design the facility in a manner that provides adequate day natural lighting and promote the use of energy saving bulbs.	During the planning and implementation stage Initiate improvements to the facility throughout its lifespan	Records on file Solar panels on roof tops	Promotor
Appointments	Appointments should be made on merit and without discrimination on the basis of political affiliation, race or gender.	▪ Appoint a construction company for the development of the facility which is reputable and experienced in the construction of fuel service stations. ▪ Appoint a Safety, Health and Environment (SHE) Coordinator who is qualified and experienced. ▪ Appoint a Fuel Service Manager (FSM) who's qualified and experienced to manage the day-to-day activities at the facility. ▪ Ensure that all appointments are made in full compliance with the labour laws.	Records kept on file	During the construction, operation and maintenance	Promotor SFSM

Aspects	Environmental Objectives	Management Actions	Timing	Proof of Compliance	Responsible Party
		▪ Appointments for personnel should be made on a merit and in a manner that is open and transparent. (Justification for hiring non-locals should be provided to the line ministry).			
Communication	Provide regular communication to stakeholders & IAPs	**Site Documents** ▪ A copy of the EMP must be kept on site during the construction and operational phases at all times. **Emergency Numbers:** ▪ Contact numbers of these service providers must be clearly displayed on a notice board: o Fuel Service Manager o Shift Supervisor o Ambulance o Fire Brigade o Police o Health Inspector (Omuthiya) **Information** ▪ Devise and implement a stakeholder communication and engagement strategy where information sharing is promoted. ▪ Keep all stakeholders informed about the progress being made with the development of fuel service station? **Complaints** ▪ Any complaint lodged regarding the project must be investigated and corrective action taken. ▪ All complains received must be recorded in writing. ▪ Allow any opportunity for IAPs to continue raising concerns (complainants) about any aspect of the project that may be affecting them.	During the construction period Throughout the operational phase	Records must be kept on file	The Promotor SHE Coordinator Contractor
Reporting	Establish a reporting system for the facility.	▪ Establish a reporting system to report on aspects of the operations and decommissioning. ▪ Submit monitoring reports on a bi-annual basis, or as specified in the conditions of the ECC.	Continuously during the lifespan of the facility	Keep monitoring reports on file	Promotor or FSM

Table 5: EMP for the Construction and Operational Phases

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Site Security, Safety and Public Health						
Poor site security has the potential to lead to accidents, theft, chaos and even injuries.	Site, safety & public health	All phases	Put measures in place to prevent physical harm to employees and third parties. Maintain a high standard of housekeeping	➢ Restrict access to the construction site to authorized personnel only. ➢ 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, acid leaks, etc. ➢ Adequate sanitation facilities must be available and well maintained at all times. ➢ Develop and implement a maintenance and inspection plan for all sanitation facilities at the service station. ➢ Provide employees with suitable PPEs. ➢ No alcohol, drugs, firearms, dangerous knives, etc. must be brought to work at the facility. ➢ Waste, both non-hazardous and hazardous on the premises must be handled in the line with the EMP.	Prior, during and throughout the construction period Throughout the operational period	Promotor SHE Coordinator Contractor
Fire Risks, Spills/Leaks of Hazardous Products						
Potential risks from fires, leaks and or spills of hazardous products have the potential to cause fire, contamination of groundwater and surface water sources	Site, health and public health	Operational Phase	Minimise potential impacts as a result of fire and accidental spills and /or leaks	**Fire Risks and Potential for Fire Outbreak** ➢ Develop a Fire Management Plan which includes a fire evacuation plan. ➢ 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. ➢ Conduct regular fire drills during which real fire situations are mimicked. Records of fire drills should be kept and reported on annually.	During the construction and throughout the operational period	Promotor SHE Coordinator Contractor

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
				▪ Fire toolkits talks should be encouraged and regularly conducted on site and attendance and performance recorded. **Spill Management Measures:** ▪ If a spill does occur, efforts must be made to stop spill at the source as soon as possible using suitable equipment. ▪ 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 with the following items at the facility: • Protective clothing (e.g. overalls, gloves, etc.) • Absorbent materials suitable for the chemical being handled • Heavy duty plastic bags ▪ When repairs or maintenance activities are being undertaken, exercise precautions to avoid spills. ▪ Train employees on spill management, spill response and any refueling activities.		
Fuel Dispensing						
Potential leaks and spills from fuel dispensing may result in contamination of underlying and uncovered soils.	Soil, surface and groundwater sources	Operational phase	Maintain a high standard of housekeeping around the fuel dispensing areas	▪ Ensure that the entire fuel dispensing area is adequately paved. ▪ Maintain fuel dispensing areas using dry clean-up methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills, and never wash down unless the wash water is collected and disposed of properly.	Operational Phase only	Promotor SHE Coordinator Contractor

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
				▪ Fit underground storage tanks with spill containment and overfill prevention systems. ▪ Fit fuel dispensing nozzles with "hold-open latches" (automatic shutoffs). ▪ Post signs at the fuel dispenser or fuel island warning vehicle owners/operators against "topping off" of vehicle fuel tanks. ▪ Ensure metering of incoming and outgoing fuel and maintain records. ▪ Ensure metering equipment are calibrated as per industry standards. ▪ Maintain all equipment, such as tanks, pumps, meters, hoses etc. in a clean state (regular inspections to be carried out).		
Soil, Land Use and Land Capability						
Potential leaks from the USTs or accidental hydrocarbon spillages or leakages during refuelling may result in contamination of underlying and uncovered soils.	Soil, Land Use and Land Capability	Operational phase	Protect amenity values by ensuring that no leaks or spills occur at the facility	▪ Ensure that proper handling and storage of hazardous chemicals and materials (e.g. fuel, gasoil, cement, concrete, reagents, etc.) as per the corresponding MSDS Control. ▪ Storm water catchment and oil separators should be installed onsite to capture runoff and separate hydrocarbons. ▪ Sealing of the forecourt areas where fuel products will be handled to prevent infiltration of petroleum products into the soil underlying the site. ▪ Storm water drainage from the surface's areas should be collected in a sealed sump to be treated. ▪ Preventative measures should be installed to prevent stormwater or other liquids from draining into the soil. ▪ Subsurface fuel tanks must be placed in concrete encasement with a sump system to prevent spilled fuel from draining into the soil. ▪ Fuel lines and dispensers should be rendered leak-proof and are recommended to be placed in encasements.	Throughout the operational phase	FSM
Vehicles delivering hydrocarbons on site pose the risk of chemical or fuel spillages and leakages	Soil, Land Use and Land Capability	Operational phase				
Potential pollutions due to improper storage and handling of hazardous materials.	Soil, Land Use and Land Capability	Operational phase				

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
				Spill kits must be made available on site to clean up accidental spillage.		
Air Quality						
Generation of gaseous emissions i.e., Volatile Organic Compounds (VOCs) and fuel that evaporates, during delivery and dispensing operations	Air quality	All phases	Protect amenity values and human health by striving to reduce dust generation which contributes to air emissions.	▪ Manage activities that generate excessive emissions. ▪ Position vent pipes at points that are far from buildings and adjacent properties. ▪ Use vapour recovery equipment and techniques to avoid air pollution and minimise fuel loss. ▪ Train personnel handling fuel in vapour recovery procedures. ▪ 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 sites. ▪ 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. ▪ Enforce a speed limit of 20km/hr to reduce dust generation on the project site. ▪ Employ good housekeeping both inside and outside the construction site.	Construction and Operational Phases	Promotor SHE Coordinator Contractor
Noise						
Increase in noise levels due to temporary use of generators during construction and or to pump fuel in the USTs to the pump facilities.	Noise	Construction phase	Minimise noise impacts associated with the construction of the proposed facility to acceptable levels.	▪ Confine activities that generate excessive noise to day-light hours. ▪ Continuous monitoring of noise levels should be conducted to make sure the noise levels do not exceed acceptable levels within an urbans environment.	Operational phase only	SHE Coordinator / Promotor
Additional noise sources due to the vehicle movements associated with USTs the	Noise	Operational phase		▪ No activity having a potential noise impact should be allowed after 18:00 if possible.	Operational phase	SHE Coordinator

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
presence in the immediate surroundings.				▪ Maintain equipment used during the operation and keep them in a good state such that they do not emit excessive noise.		
Waste						
Possible impacts on the environment due to non-removal of building waste may result in the contamination of surface runoff resulting in the deterioration of water quality of water resources and soil.	Waste	Construction phase	Remove all building waste from the site.	▪ Excavations and removal of overburden and topsoil must be minimised and confined to demarcated area. ▪ 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;	Construction phase only	Promotor / SHE Coordinator / Contractor
Possible impacts on the environment due to poor waste management may result in the contamination of surface runoff resulting in the deterioration of water quality of the water resources and soil		Operational phase	Maintain a high standard of housekeeping	▪ Separate waste at source and encourage waste recycling wherever possible; ▪ Provide suitable and adequate waste skips for household waste generated at the facility. ▪ Label waste skips and train personnel on waste sorting and storing. ▪ Waste skips must have lids to prevent wildlife animals gaining access to such waste. ▪ Waste must be collected and disposed of at an approved local authority landfill site.	During the operational phase	Promotor / Service Manager
Possible impacts on the environment due poor handling of hazardous waste		Construction and operational phases		▪ Minimise hazardous waste generation wherever possible at the facility; ▪ All chemicals and other hazardous substances must be stored and maintained in accordance with the Hazardous Substances Ordinance. ▪ Given the harmful nature of hazardous products, personnel handling such products must be well trained and experienced.	Construction and operation phase	Promotor Contractor SHE Coordinator Service Manager

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
				▪ Suitable PPEs should be provided to personnel allowed to handle hazardous products at the facility. ▪ Storage areas where hazardous products are stored must be bunded with the bund area capable to hold 120% of the total volume of the given substance stored on site. ▪ Ensure that fuel tanks do not leak to contaminate groundwater sources by carrying out regular inspections. ▪ Separate hazardous waste streams for re-use or to recycle; ▪ Recycle or treat waste where feasible or through licensed waste contractors		
Surface Water						
Contamination of runoff by poor materials/waste handling practices, solids, sediments and fuel residue resulting in the impact on local surface water quality.	Surface water	Construction and Operational phases	Ensure that sources of surface water are not polluted from activities at the site.	▪ Dumping of waste products of any kind in or in close proximity to any surface water bodies is prohibited. ▪ Contaminated runoff from the various operational activities such as greases, fuels, oils etc. should be prevented from entering any surface or groundwater bodies. ▪ Ensure that surface water accumulating on-site are channeled and captured through a proper stormwater management system before disposal into the natural environment. ▪ Treat oily water through an oil/water separator before it is drained to the sewer or collected by a licensed contractor. ▪ Prevent fuel spills: look at work practices, staff training, equipment and storage. ▪ In the instance of an accidental spill, the effluent should be contained as far as possible in a separator pit.	During the construction and operation of the fuel facility	Promotor SHE Coordinator Contractor
Groundwater						
Potential leaks from	Groundwater					FSM

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
the USTs or accidental hydrocarbon spillages during refuelling could contaminate groundwater and hence impact on water users.		Operational Phase	Ensure that activities at the facility do not result in the contamination of groundwater sources	▪ Subsurface fuel tanks must be placed in concrete encasements with a sump system to prevent spilled fuel from draining into the soil. ▪ Fuel lines and dispensers should be rendered leakproof and are recommended to be placed in encasements. ▪ A leak detection system approved by industry standards should be installed and monitored on an ongoing basis throughout the operational lifespan of the facility. ▪ Regularly monitor underground tanks and supply lines to detect any leaks.	Throughout the operation lifespan of the facility	
Potential chemical spillages, including fuel and oils from the vehicles delivering and transporting chemicals	Groundwater					
Potential groundwater pollution as result of improper storage and handling of hazardous materials	Groundwater					
Traffic						
Trucks delivering fuel to the USTs could impact on local traffic.	Traffic impacts		Minimise traffic impact on the proposed facility on existing road users and infrastructure.	▪ Develop and implement a traffic accommodation plan to mitigate any adverse impacts on road users during the construction phase of development; ▪ Ensure that adequate and clear signage are provided indicating parking areas designated for staff, clients as well as access and exit in and out of the facility premises. ▪ If any traffic impacts are noted around and on the facility premises, traffic management should be implemented to prevent such impacts. ▪ Road regulations including speed limit must be respected by all company drivers. ▪ Any traffic incident or accident which occurs on the facility premises should be investigated and corrective action taken to prevent re-occurrence. ▪ Any complaints received with respect to road traffic regulations on the premises should be recorded, immediately investigated and corrective action taken.	Construction and operational phases	Promotor SHE Coordinator Contractor

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Visual						
Visual intrusion as a result of construction equipment, machinery and vehicles as well as lighting at night.	Visual	Construction & Operational Phases	Minimise any potential visual intrusion from the facility on the surrounds, the neighbouring properties and the general public.	▪ Lighting at the facility should be provided for security and policing purposes. ▪ Excessive illumination and light spill to neighbouring properties should be avoided. ▪ Zones of high and low lighting requirements at the facility should be identified and lighting provided to illuminate areas to the minimum extent possible to allow safe operations at night and security surveillance. ▪ Buildings that are typically not used at night (offices, etc.) should be fitted with sensors that switch off lights in empty rooms, to prevent them from inadvertently being left on. ▪ Up-lighting of structures should be avoided. Light should be directed ▪ Buildings must be well maintained to avoid any visual decay. ▪ Ensure that dust does not escape from the any stored materials into the atmosphere becoming a visual annoyance to the neighbouring facilities and the general public. ▪ Waste around the facility such as windblown papers and plastics should be regularly picked up to avoid visual annoyance.	During the construction and operation of the facility	Promotor Contractor SHE Coordinator Service Manager
Heritage and Cultural Resources						
Potential impacts on items of cultural or heritage nature during excavations activities.	Cultural and heritage	Construction phase only	Minimise damage to cultural and heritage items	▪ Work should be immediately stopped when items of cultural or heritage nature are unearthed during the construction activities. ▪ The item(s) should be reported to the Heritage Council of Namibia and work should only be resumed when permission has been obtained.	During the construction phase only	Promotor Contractor SHE Coordinator

Potential Impacts/Aspects	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Socioeconomics						
Employment opportunities	Socio-economics	All phases	▪ Optimize benefits to the local community by adopting a .local first' during hiring. ▪ Enhance transfer of vital skills and technologies during the construction and operational phase of the facility through on-the-job training.	▪ Source and procure goods required for the facility from local suppliers including the construction work of the enclosed warehouse. ▪ Make use of local small-scale contractors for activities such a maintenance of the buildings, repairs of machinery & equipment who are experienced and with good references. ▪ 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. ▪ Give consideration to person with disabilities who are able to perform and have some skills. ▪ 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. ▪ Give all employees an induction on the EMP, housekeeping rules including safety, grievances procedures and company policies. ▪ Allow employees to join and belong to a trade union of their choice. Allow each employee charged with a misconduct the right to be represented during a disciplinary hearing. ▪ Keep proper records on the number of employees, fulltime/part-time, contractors hired, payments made to contractors, salaries/wages, etc. ▪ Develop a policy on social ills to deal with aspects related to drug, alcohol abuse, unsafe sex practices, etc. Provide educational programme for employees on various topics of social behaviour HIV/AIDS and general upliftment of employees' social status. ▪ Provide on-the-job training opportunities to help employees to improve their skills level which ultimately leads to high productivity, reduced wastage, motivation, high morale and efficiencies	All phases	Promotor Contractor
Contribution to local economy development and in turn contributes positively towards the country's economy	Socio-economics	All phases				
Skills development and training	Socio-economics					
Potential impact on safety as a result of loss of containment or leaks in the transportation or storage infrastructure, as the products are highly flammable	Socio-economics					

Table 6: EMP for the Closure and Decommissioning

Potential Impact	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Visual						
Visual intrusion as a result of movement of machinery and the decommissioning of required infrastructure	Visual	Decommissioning and Closure	Limit visual impacts during decommissioning	↓ Keeping working hours between 07h00 to 17h00. ↓ Erect signboards at the start of decommissioning to prepare the people psychologically in the vicinity of facility. ↓ The site should be kept enclosed with access limited to decommissioning personnel only. ↓ The site should be kept neat and organized to reduce visual pollution.	Throughout the decommissioning phase	SHE Coordinator Contractor
Noise						
An increase in noise levels due to the presence of vehicles and machinery related to the decommissioning activities	Noise	Decommissioning and Closure phase		↓ Decommissioning work should be carried out during the specified time (07h00 to 17h00), because noise generated during the day is not quite disturbing as compared to it being generated at night hours. ↓ Sensitize decommissioning vehicles' drivers and machinery operators to switch off engines of vehicles when not in use. ↓ Suppressors or silencers on equipment or noise shields, for instance, corrugated iron sheet structures. ↓ Machinery should be maintained regularly to reduce noise resulting from friction. ↓ Provision or billboards at the construction site notifying of the decommissioning activity timings.	Throughout the decommissioning & closure phase	SHE Coordinator Contractor
Soil, Land Use and Land Capability						
Potential contamination of soil resources as a result of incorrect storage/leakage storage/spillage of chemicals, hydrocarbons, or any other hazardous substances /materials.	Soil, Land Use and Land Capability	Decommissioning & Closure phase	Protect amenity values by ensuring that no leaks or spills occur during the decommissioning	↓ Ensure proper handling and storage of hazardous chemicals and materials, (e.g. fuel, gasoil, cement, concrete, reagents, etc.) as per their corresponding MSDS Control Provision of soil conservation structure in erosion prone areas,	Throughout the decommissioning & Closure process.	SHE Coordinator Contractor

Potential Impact	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Potential erosion and disturbance of the soil profile as a result ground disturbance through turnings.	Soil, Land Use and Land Capability	Decommissioning & Closure phase		▪ Avoid unnecessary movement of soil materials from the site. ▪ Good management of the runoff/stormwater to reduce its impact on loose soil. ▪ Control decommissioning activities especially during rainy/wet conditions. ▪ Landscaping: Re-surface open areas on completion of the project and introduce appropriate vegetation where applicable. ▪ Provide appropriate drainage system to manage surface runoff. ▪ Promote soil decompaction.		
Potential pollutions soil due incorrect remediation of contaminated soil.	Soil, Land Use and Land Capability	Decommissioning & Closure phase				
Terrestrial Ecology						
Potential spreading of alien invasive species as indigenous vegetation is removed and pioneer alien species are provided with a chance to flourish.	Terrestrial Ecology	Decommissioning & Closure Process		Promote revegetation reinstatement of the rehabilitated site		
Air Quality						
An increase in nuisance dust PM_{10} and $PM_{2.5}$. There is also potential for increase in carbon emissions and ambient air pollution due to the movements of construction machinery and vehicles	Air quality	Decommissioning & Closure Process	Protect amenity values and human health by striving to reduce dust generated contributing to air emissions.	▪ Provide all operators of cutting and grinding equipment with the necessary PPEs. ▪ Limit dust generating activities to times when winds are strong. ▪ In dry weather conditions, the paved surface must be watered to prevent dust propagation. ▪ Spraying trucks down with water to prevent dust particulate from being suspended while being transported.	Duration of decommissioning	SHE Coordinator Contractor
Waste						

Potential Impact	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
Possible impacts on the surrounding environment as a result of waste generation, incorrect waste disposal, (general and hazardous aggregated) and poor housekeeping on the site.	Waste	Decommissioning & Closure phase	Remove all decommissioned waste from the site.	▪ All construction workers should be made aware of their responsibility in waste management and of the correct means of deposing of waste. ▪ Waste bins with lids should be provided at strategic locations on the site for all general waste. ▪ All general waste shall be disposed of at a suitably registered landfill site as agreed with OTC. ▪ Explore management options which include reduction, recycling and disposal of waste.	Construction phase only	Promotor / SHE Coordinator / Contractor
Surface Water						
Accidental spillages of hazardous substances from decommissioning vehicles as well as from hazardous storage areas.	Surface water	Decommissioning and Closure Phase	Ensure that sources of surface water are not polluted from decommissioning activities at the site.	▪ Good management of the runoff/stormwater to reduce its impact on loose soil. ▪ Control decommission construction activities especially during rainy/wet conditions. ▪ Provide appropriate drainage systems to manage surface runoff.	During the decommissioning activities	SHE Coordinator Appointed Contractor
Contamination of runoff by poor materials/waste handling practices.	Surface water	Decommissioning & Closure				
Contaminated dirty water runoff to surrounding areas resulting in the impact on local surface water quality.	Surface Water	Decommissioning & Closure				
Groundwater						
Potential discharge to ground surface due chemical spillage including fuel and oils on the ground surface.	Groundwater	Decommissioning & Closure Phase	Ensure that activities associated with decommissioning do not result in the contamination of groundwater sources	▪ Good management of the runoff/storm water to reduce its impact on loose soil. ▪ Control decommissioning activities especially during rainy/wet conditions. ▪ Provide appropriate drainage systems to manage surface runoff	Throughout decommissioning	SHE Coordinator Appointed Contractor
Potential discharge to ground surface due to improper storage and handling of hazardous materials.	Groundwater					
Potential groundwater pollution as result of	Groundwater					

Potential Impact	Aspects Affected	Phases (in which impact is anticipated)	Environmental Objectives	Management Actions	Timing	Responsible Party
improper storage and handling of hazardous materials						
Traffic						
Temporarily alternations of traffic in the area may lead to congestion	Traffic impacts	Decommissioning	Minimise traffic impact on surrounding existing roads during decommissioning.	• Decommissioning personnel should make use of main roads as far as reasonably possible. • Use should be made of few construction vehicles as possible. • Adequate signage should be generously displayed on the premises.	Duration of decommissioning	SHE Coordinator Contractor
Socioeconomics						
Loss of jobs and income	Socio-economics	Decommissioning & Closure phase		• Adopt a project-completion policy: identifying key issues to be considered earlier before starting with decommissioning. • Assist with re-employment and job-seeking of involved workforce. • Compensate and suitably recommend the workers to help in seeking opportunities elsewhere. • Offer advice and counselling on issues such as financial matters. • All workers involved in the decommissioning must be acquainted with the EMP. • Maintain regular communication with neighbouring residents/businesses who may be negatively affected by decommissioning activities (dust, noise, etc).	Throughout the decommissioning process	Promotor
Generation of dust potentially resulting in health and nuisance impacts	Socio-economics					
Health and safety risk as result of movement of vehicles involved in decommissioning.	Socio-economics					
Impact on the sense of place due to dismantling of facility structures	Socio-economics					