APP-001081

ANNEXURE 1

FORMS

Form 1

REPUBLIC OF NAMIBIA ENVIRONMENTAL MANAGEMENT ACT, 2007

(Section 32)

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE

Name:(person or business): **Eco-fuel Investment CC**

Business Registration/Identity No.
(if applicable)

Correspondence Address: **P.O. Box 98398 Windhoek**

Name of Contact Person: **Mr. Victor Malima**

Position of Contact Person:

Telephone No: **+264 815806343/ 0813361588**

Fax No: **+264 (0) 61401718**

E-mail Address: **ecofuelinvestment@gmail.com**

☐ Tick the appropriate box

PART B. SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE

1. The environmental clearance certificate is for:

For the operation of a temporary fuel consumer installation facility on portion 8 of farm 67, Kapps farm, Windhoek, Khomas region.

2. Details of the activity(s) covered by the environmental clearance certificate:

[Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary:

Title of Activity:

For the operation of a temporary fuel consumer installation facility on portion 8 of farm 67, Kapps farm, Windhoek, Khomas region.

Nature of Activity:

The fuel consumer installation is intended to supply diesel fuel to the road construction project of Windhoek- Hosea Kutako airport road. The portable diesel tanks are self bunded to contain any fuel leaks and they will be installed above ground. A concrete slab will be constructed on which the portable tank-pump container will be placed, this is to mitigate any pollution from possible spillages or leaks.

Location of Activity:

Portion 8 of farm 67, Kapps Farm, Windhoek, Khomas Region.

Scale and Scope of Activity:

Three (3) portable diesel tank container units, each with the capacity of 23000 L. Activities will include storage and handling of fuel on site.

PART C. DECLARATION BY APPLICANT

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any information given above is false, misleading, wrong or incomplete.

M Dumeni
Signature of Applicant

MARTHA DUMENI
Full Name in Block Letters

Environmental Consultant
Position

On behalf of **Eco- fuel Investment CC**

Date: 06 February 2020

MINISTRY OF MINES AND ENERGY
DIRECTORATE: PETROLEUM AFFAIRS
2020 -02- 06
RECEIVED

ENVIRONMENTAL SCOPING REPORT

ENVIRONMENTAL SCOPING REPORT

FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY ON PORTION 8 OF FARM 67, KAPPS FARM, WINDHOEK, KHOMAS REGION

=

Nam Geo-Enviro Solutions

FEBRUARY 2020

Environmental authorization information

PROJECT:	**FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY ON PORTION 8 OF FARM 67, KAPPS FARM AREA, WINDHOEK, KHOMAS REGION**	
PREPARED FOR:	**Eco-Fuel Investment CC** P.O. Box 98398 Windhoek Tel:+264815806343/0813361588 Fax: +264 (0) 61 401 718 Email: ecofuelinvestment@gmail.com	
PREPARED BY:	**Nam Geo-Enviro Solution** P.O. Box 3343 Windhoek Tel/Fax: +264(61) 402246 Email:info@geoenvirosol.co.za	
CV of Consultant	Ms. Martha Dumeni	Environmental Scientist

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS

ACRONYM	MEANING
ESA	Environmental Scoping Assessment
ESR	Environmental Scoping Report
EAP	Environmental Assessment Practitioner
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
ISO	International Standard Organization
SANS	Africa National Standard

EXECUTIVE SUMMARY

Eco-fuel Investment CC proposes to operate a temporary fuel consumer installation facility on portion 6 of Farm 67, Kapps Farm, Windhoek, Khomas region, therefore Nam Geo-Environmental Solution was assigned to conduct an Environmental Scoping Assessment (ESA) and develop an Environmental Management Plan(EMP) in accordance with the requirements of the Environmental Management Act (Act No.7 of 2007) and its Regulations (2012).

The consumer installation facility will serve to supply diesel fuel to the road construction project of Windhoek-Hosea Kutako Airport road. The facility will constitute of three (3) self bunded above ground Diesel tanks, each with the capacity of 23000L.

The main purpose of this study is to identify the impacts of the proposed project on the environment and propose mitigation measures that will be incorporated into the project environmental management plan.

The project was advertised in two local newspapers (New Era and Confidante) for two consecutive weeks to provide an opportunity for stakeholders and the public to engage in the process and to make comments or express their concerns regarding the proposed project development.

The site visit was conducted on the 19th of December 2019 and it covered all relevant components of ecological and socio-economic components of the environments. The key potentially significant impacts that were identified are Fire hazards and explosion, Hydrocarbon waste, surface and groundwater contamination. The other impacts associated with the project are clearly highlighted in the EMP and their mitigation measures.

There will be minimized unfavorable impacts on the environmental if the EMP is followed and fully implemented, therefore the EMP should be used as an onsite reference document to mitigate and minimize the identified impacts to an acceptable level.

CHAPTER ONE: BACKGROUND

1.1 INTRODUCTION

Eco-fuel Investment CC intends to operate a temporary fuel consumer installation facility on portion 8 of Farm 67, Kapps Farm, Windhoek, Khomas region. The consumer installation facility will serve to supply diesel fuel to the road construction project of Windhoek-Hosea Kutako Airport road.

The facility will constitute of three (3) self bunded above ground Diesel tanks, each with the capacity of 23000L.

The aim of this study is to examine both positive and negative impacts that the proposed project is likely to have adverse effects on the physical and the socio-economic environment aspects. This will allow early detection before project implementation and help propose mitigation measures of possible impacts.

Nam Geo-Enviro Solutions visited the site on 19 December 2019. Potential environmental impacts and associated social impacts were identified and addressed in this report. According to the Environmental Management Act (2007) and its Regulations (2012) this development requires an Environmental Clearance Certificate (ECC) as specified in the listed activities below in the table.

Table 1**:** Listed Activities relevant to the project

ACTIVITY	**RELEVANT SECTIONS**
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.

1.2 TERMS OF REFERENCE

This Environmental Scoping Assessment and Environmental Management Plan offers a clear and concise evaluation of the proposed fuel consumer installation and storage facility activities against environmental obligations and considerations as required by law. Furthermore, the EMP will address all probable long-term and acute impacts of the project on the environment (ecological, socio-economic, biophysical, political) and explore alternatives for technical

improvements based on the requirements set out by the Environmental Management Act (2007) and its Regulations (February 2012).

Request for an Environmental Scoping Assessment for Environmental Clearance (this report) – detailing environmental impacts associated with the proposed project, proposing mitigation measures and develop an EMP.

- To establish baseline environmental conditions so that relevant impacts could be projected and sufficient mitigation measures could be designed into the operational phases
- To identify direct or indirect environmental impacts that may result from the proposed fuel consumer installation and storage facility.
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation and implementation of the Environmental Management Plan.
- Comply with Namibia's Environmental Impact Assessment Regulation (2012), Environmental Management Act (No. 7 of 2007) and other relevant laws and regulations
- To propose alternative measures where it is noticed that adverse effects may occur
- To set up an Environmental Management Plan that will govern all activities of the project for the better protection of the environment.

1.3 PROJECT DISCRIPTION

1.3.1 PROJECT LOCATION

The proposed project involves the operation of a fuel consumer installation facility and amenities on portion 8 of Farm 67, Kapps Farm, Windhoek, Khomas Region. The GPS coordinates of the location for the anticipated project site is S22.553025° and E17.238812° and the elevation is 1877m above sea level.

1.3.2 SURROUNDING LAND USES

The proposed fuel consumer installation facility will be situated on portion 8 of Farm 67, Kapps Farm. Opposite to the site is B6 main road of Windhoek-Hosea Kutako Airport and Namibia 4×4 rental on Bollerode plot, portion 8 of 64, Kapps farm on the northern side.

1.3.3 PROJECT ACTIVITIES

Activities of the proposed fuel consumer installation and storage facility will involve, setting up and site establishment, operation and decommissioning phase. **Table 2** below indicate activities associated with the project.

TABLE 2: ACTIVITIES ASSOCIATED WITH THE PROJECT.

ACTIVITY	DESCRIPTION
Setting up and site establishment	
Site preparation	The site is part of a pre-existing farm, already cleaned and devoid of vegetation. The setting up will include construction of a concrete slab on which the tanks will be placed and where off-loading of diesel from the road tanker truck and the filling up of vehicles will be taking place. An oil water separator pit and associated infrastructures will also be constructed in this phase. **See figure 2 - Design of set-up**
Testing and commissioning	Operations will be tested and if no faults are found, the fuel consumer installation and storage facility will be subsequently opened.
Operation Phase	
Fuel distribution	Fuel will be distributed by fuel tanker trucks to the fuel consumer installation site.
Off-loading of fuel	Fuel will be off-loaded into the tanks by the road tanker truck. During this stage precaution must be taken so as to avoid spillages.
Dispensing of fuel into vehicles	Fuel will be dispensed into construction vehicles. Spillages, fire and explosion are some of the hazards which are associated with this stage.
Maintenance	Non-functioning equipment will be repaired.
Decommissioning Phase	
Tank removal	Removal of the fuel storage tanks after emptying the fuel therein, appropriate treatment of any contaminant and proper disposal of decommissioned facilities and other wastes using a licensed waste collector.
Decommission pollution study	A decommissioning study should be conducted after the removal of fuel tanks, in order to assess any contamination of soil. The study will examine hydrocarbon contaminants and propose clean-up methods where possible.
Landscaping	Planting of grass and trees (or shrubs). The major emphasis here will be rehabilitation of the affected environment.
Disposal	Proper disposal of dismantled material and protection of public health and safety.

1.3.4 THE FUEL CONSUMER INSTALLATION AND STORAGE FACILITY

The proposed site is located on a pre-existing farm, already cleared, compacted and devoid of vegetation. The total plot area size is approximately 3000m^2.

The diesel fuel will be stored in three self bunded (double wall) Diesel tanks, each with a capacity of 23000 litres.

The three mobile units are made according to UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and ULC-S601, Shop Fabricated Steel (www.petroind.com). see figure below of portable units.

Figure 1: The site view

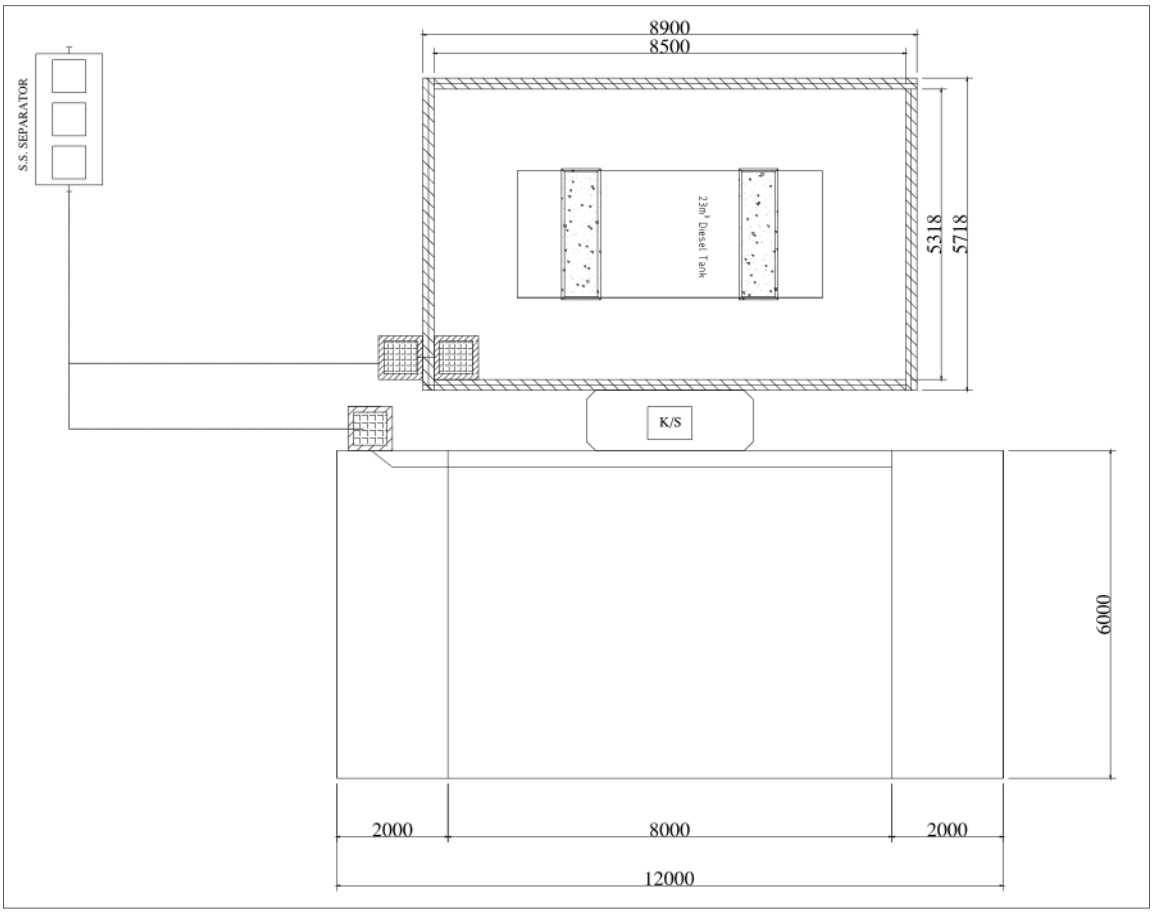


Figure 2: Design of installation set-up, with concrete floor at dispensing areas

1.4 LAND OWNERSHIP

See attached memorandum of agreement **(appendix C).**

1.5 PROJECT COST

The actual cost of the whole project is not yet established, but is estimated to a be more than one million Namibian dollars (> N$1,000,000).

CHAPTER TWO: PROJECT NEED AND DISIRABILITY

2.1 ACCESSIBILITY OF FUEL

The establishment of the fuel consumer installation facility is necessary as it will ensure supply of diesel fuel to road construction project (Windhoek-Hosea Kutako airport road).

2.2 ECONOMIC DEVELOPMENT

The motivation for Namibia to support the project is economic and strategic in nature. The project has the potential to benefit the country, society and surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages and indirect economic benefits will be derived from the increased spending power of employees through the creation of new jobs at the fuel consumer installation facility.

2.3 EMPLOYMENT CREATION

Job opportunities will be created during the life span of the project. The type of jobs will range from skilled, semi-skilled and unskilled. During the setting up and establishment service providers are going to be employed. Moreover, during the operation phase people are also going to be employed and locals should be the first priority.

2.4 THE HARAMBEE PLAN FOR PROSPERITY (HPP)

The Harambee Plan for Prosperity [HPP] has been developed to complement the National Development Plans and Vision 2030. One of the aims of the HPP is to promote economic advancement. The HPP states that the most effective way to address poverty is through wealth creation, which in turn is done by growing the economy in a sustainable inclusive manner and through the creation of decent employment opportunities. It is vital to point out that, by promoting the service station project, we will be promoting the aims for the Harambee Plan for Prosperity by providing jobs and contribute to the GDP of the country.

The fuel consumer installation facility project is being initiated by a Namibian and promoting the project will imply promoting the spirit of entrepreneurship and economic empowerment encouraged in the HPP.

CHAPTER THREE: RISK ASSESSMENT AND PROJECT ALTERNATIVES

The focal point of this chapter is on the alternatives to the project. Alternatives to the project are different ways to achieve the same purpose and need. The alternatives to the proposed project development include alternative sites and the “no project” alternative.

Risk assessment is a crucial element to consider when conducting the Environmental Assessment exercise for any given project.

3.1 PROJECT SITE ALTERNATIVE

The project can be implemented in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development. However, the following reasons validate the use of the proposed site for the development:

- Proximity of the site to road under construction.
- Availability of Land-There is adequate space for the proposed project.
- No nearby service station to supply fuel to the road construction project
- Accessibility-the site is close to B6 main road (Windhoek-Hosea Kutako airport) which will make transportation of fuel easy.
- The site is already cleared no need to clear the land.

3.2 THE “NO PROJECT” ALTERNATIVE

The “No Project” alternative implies that no development should be undertaken on the land and thus retains the original environment. However, it is essential to note that even though the “no project” alternative would not have adverse impacts on the environment but it would not make sense not to undertake the development. The no project option is the least preferred option from the socio-economic and partly environmental perspective due to the following factors:

- Fuel supply- Road construction project will be affected due to the lack of fuel supply on the area. The 'no project' alternative will therefore make no sense as it will not help the situation but worsen it.
- Growth and development- The project has the potential to benefit the country, society and surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of employees through the creation of new jobs at the site.
- Employment-Jobs will be available during the operation phases hence reducing unemployment rate in the region.

- Poverty- the project will help to reduce poverty rate in the region as locals will be employed hence improving their social wellbeing.

3.3 OTHER ALTERNATIVES

3.3.1 Energy

ALTERNATIVE DESCRIPTION	ADVANTAGES	DISADVANTAGES
Energy Requirements: lighting and power supply		
Electricity	• Easy to set-up • Power grid is nearby proposed area	• Expensive
Solar energy	• Renewable resources • Easily transportable to required application area • Clean, does not produce pollution • Safe and a convenient source of energy	• Dependent on sunny days' radiation • Expensive capital expenditure • Repair requirements costly and time consuming

ANALYISIS OF ALTERNATIVES

Electricity is the preferred alternative given that it is a safe and convenient source of energy.

3.3.2 Sanitation

ALTERNATIVE DESCRIPTION	ADVANTAGES	DISADVANTAGES
Flash toilets	• Easy to use and keep clean • Prevents flies and smells • Low possibility of environmental contamination	• Water consumption
Pit Latrine	• Very cost effective	• Probability of pollution is high

Portable Camp Toilet	• Easily transportable • No direct impact on the environment and ecology (if disposed legitimately)	• Artificial chemicals • Transportation of hazardous material • Disposal required at existing facility

ANALYISIS OF ALTERNATIVES

During the operation of this facility portable camp toilets will be used. Portable camp toilets are advantageous in that they pose no direct impact on the environment if disposed legitimately.

CHAPTER FOUR: RELEVANT LEGISLATION

In this chapter the consultant reviews various applicable local legislations that govern the anticipated project. The objective is to ensure that the proposed fuel consumer installation and storage facility project comply with the legal requirements, international standards and organizational performance standards. The Namibian Constitution Act (1990), Environmental Assessment Policy (1994), Environmental Management Act of Namibia (2007), Environmental Management Act Regulations (2012), Water Resource Management Act of Namibia (2004), Pollution Control and Waste Management Bill (guideline only), were reviewed. **Table 4** below indicates laws and policies which relates to the project.

Table 3: Relevant legislation and policies for the fuel consumer installation and storage facility.

Aspect	Legislation	Relevant Provisions	Relevance to the Project
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	– "The State shall actively promote and maintain the welfare of the people by adopting policies that are aimed at maintaining ecosystems, essential ecological processes and the biological diversity of Namibia. It further promotes the sustainable utilisation of living natural resources basis for the benefit of all Namibians, both present and future." (Article 95(l)).	– Through implementation of the environmental management plan, the proposed fuel consumer installation facility operations will ensure conformity to the constitution in terms of environmental management and sustainability.
Environmental	Environmental Management Act 7 of 2007	– Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). – Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions about a project (Section 2(b-c)). – According to Section 5(4) a person may not discard waste as defined in Section 5(1)(b) in any way other than at a disposal site declared by the Minister of Environment and Tourism or in a manner prescribed by the Minister. – Details principles which are to guide all EIAs	– The EMA will guide the process of the ESA. – The public and relevant authorities were consulted during the process of public participation as per the requirement of the act.
	EMA Regulations (2012)	– Details projects which cannot be undertaken without an EIA	– This project is listed under activities which cannot be undertaken without an EIA.

		– Details requirements for public consultation within a given environmental assessment process – Details the requirements for what should be included in a Scoping Report and an EIA report	– This Act and its regulations should inform and guide this EIA process.
	Pollution and Waste Management Bill (draft)	– This bill defines pollution and the different types of pollution. It also points out how the Government intends to regulate the different types of pollution to maintain a clean and safe environment. – The bill also describes how waste should be managed to reduce environmental pollution. Failure to comply with the requirements is considered an offence and punishable.	– The project should be conducted in a manner which is advised by the bill so as to minimize the generation of waste at the site. – A waste management strategy that follows recycling, reuse and reducing will be commissioned throughout the operations.
	Soil Conservation Act 76 of 1969	– This acts makes provision for combating and for the prevention of soil erosion, it promotes the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic of Namibia.	– Fuel consumer installation and storage facilities are mainly associated with spillages which can end up contaminating the soil. This document aims at guiding the proponent during , operation and decommissioning so as to prevent soil erosion and contamination .
	Hazardous Substance Ordinance 14 of 1974	– Provisions for hazardous waste are amended in this act as it provides “for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the prohibition and	– The proponent shall separate waste at site. – The proponent shall ensure that all possible “hazardous” categorised substances and waste shall be handled by a certified hazardous waste handler.

		control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance; and to provide for matters connected therewith"	
	Atmospheric Pollution Prevention Ordinance 11 of 1976;	− The Act requires that there is need to register a controlled area with certificate to operate air polluting activities. The retail license covers all elements and requirements of this Act.	− The proponent shall apply for a Consumer Installation Licence from the Ministry of Mines and Energy.
	Forest Act (2001) and Regulations (2015	− The Act and Regulations requires that all harvesting of trees and wood, anywhere in Namibia is governed by this Act and regulations. − The Act also governs activities which take place in classified forests, namely State Forests, Forestry Management Areas and Community Forests as well as non-classified forest areas. − The harvesting permit is issued by the administrators of the act which is the Directorate of Forestry (DoF) in the Ministry of Agriculture, Water and Forestry (MAWF). − Inspection of the area where the harvesting will take place has to be done before the issuing of the permit − Where applicable the permit can be renewed every three months	− In this case the site is already cleared no need for harvest permit.

Water	Water Act 54 of 1956	− The Water Resources Management Act 24 of 2004 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: − A permit application in terms of Sections 21(1) and 21(2) of the Water Act is required for the disposal of industrial or domestic wastewater and effluent. − Prohibits the pollution of underground and surface water bodies (S23(1). − Liability of clean-up costs after closure/ abandonment of an activity (S23(2)). − Protection from surface and underground water pollution	− Fuel consumer installation facilities are associated with spillages which can contaminate ground water or surface water hence this act will be of importance especially during operation phase. − Eco-fuel consumer installation facility shall not be allowed to dispose waste water into the environment. An approved waste handling contractor shall constantly come to collect the waste water from the oil & water separator pit.
Health and Safety	Labour Act (No 11 of 2007) in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.	− 135 (f): "the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery about the structure of such buildings of otherwise to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;" (Ministry of Labour and Social Welfare). − This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.	− The proponent will be obliged to create a safe working environment for the employees. This will include applying appropriate hazard management plans and enforcing Occupational Health and Safety (OHS) management systems to contractors.

	Public Health and Environmental Act, 2015	− A person who intends to conduct on a premises activity which generate special, industrial, hazardous or infectious waste must be registered for that purpose with the local authority concerned − (3) A person or local authority engaged in activities contemplated in subsection (1) or (2) must ensure that the waste generated on the premises concerned is kept and stored (a) under conditions that causes no harm to human health or damage to the environment; and (b) In accordance with applicable laws. − (4) All waste contemplated in this section must be stored in approved containers and for the maximum period determined by the head of health services or the chief health officer.	− An approved waste handling contractor shall constantly come to collect the waste water from the oil & water separator pit
Oil and Gas	Petroleum Products & Energy Act (1990)	− The Act requires that for the operation of the Fuel consumer installation and storage facility a retail license has to be obtained from the relevant ministry − Adding on the Act requires incident reporting of major spillages occurring on site for pollution control.	− The fuel consumer installation facility shall apply for a consumer installation licence from the Ministry of Mines and Energy.
	South African National Standards SANS 10089-3	− Part 3: The installation of underground storage tanks, pumps/dispensers and pipe work at fuel consumer installation and storage facilities and consumer installations.	− The fuel consumer installation facility has to be set up according to SANS standards.

The proponent shall be required to comply with the legislations. Where there is need to engage private consultants to facilitate compliance, the proponent is encouraged to consult qualified and certified personnel. The Environmental consultant is supposed to conduct legal compliance audits and produce bi-annual reports which will be required during renewal of environmental clearance certificate.

4.1 ENVIRONMENTAL ASSESSMENT POLICY (1994)

The environmental assessment policy details the principles of achieving and maintaining sustainable development that support all policies, programmes and projects undertaken in Namibia. This is related in particular, to the wise utilization of the country's natural resources, together with the responsible management of the biophysical environment, which is intended to benefit both present and future generation. The policy also highlights on the following sustainability principles polluter pays principal, precautionary principal and public participation principal.

4.2 WASTE MANAGEMENT REGULATIONS: LOCAL AUTHORITIES ACT (1992)

Waste Management Regulation: Local Authorities of 1992 provides guidelines on waste management, it states that every owner or occupier of premises must provide a secure, hygienic, adequate and readily accessible waste storage place or area on the premises.

4.3 WATER RESOURCE MANAGEMENT ACT OF NAMIBIA (2004)

The Water Resources Management Act, No.24 of 2004 emphasizes on the management, development, protection, conservation, and use of water resources. The water act also makes provision for the protection of river catchments, drilling of boreholes and making of wells, it controls effluent discharge into rivers and weather modifications such as cloud seeding and outlines regulations that govern the optimal use of water resources. It clearly defines the interests of the state in protecting water resources.

4.4 NATIONAL HERITAGE ACT NO.27 OF 2004

The Heritage Act 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 Monuments 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.

4.5 NAMIBIA'S DRAFT WETLAND POLICY

Namibia's Wetland Policy Vision is to manage national and shared wetlands wisely by protecting their vital ecological functions, life support systems for the current and future

benefit of people's welfare, livelihoods and socio-economic development. The objectives of the policy are to:

- Protect and conserve wetland diversity and ecosystem functioning to support basic human needs.;
- Provide a framework for endurable use of wetland resources;
- Promote the integration of wetland management into other sectoral policies
- Recognize and fulfill Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance.

4.6 SOME OF THE INTERNATIONAL LAWS NAMIBIA IS SIGNATORY

Table 4: Laws Namibia is signatory to Namibia.

1985	Vienna Convention for the protection of the ozone layer
1987	Montreal protocol on substances that deplete the ozone layer
1989	The Basel convention on the control of trans-boundary movements of hazardous wastes and their disposal
1989	The Rotterdam convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade
1992	The Rio de Janeiro convention on biological diversity
1992	United Nations framework convention on climate change

CHAPTER FIVE: DESCRIPTION OF THE AFFECTED ENVIRONMENT

This chapter describes the environmental setting of the project, which includes the biophysical environment and the socio-economic environment. Trends and anticipated environmental conditions will also be indicated. Information will be given enough to allow the reviewers to understand the environmental impacts and assessment carried out in relation to the current environmental conditions. The baseline information will also assist in the monitoring of the environmental impacts once the project is in the, operational and monitoring stage. As indicated in the earlier sections, the proposed project is localized therefore the baseline aspects will be very localized and limited in scope.

5.1 BIO-PHYSICAL ENVIRONMENT

5.1.1 CLIMATE

Table 5. Below briefly describe the general climatic conditions experienced within the Khomas Region in which the site is situated, as deduced from the Atlas of Namibia, by Mendelsohn et al 2003.

Table 5: Summary of general Climate Data of Khomas region.

Element	Description
Classification of climate:	Windhoek has a hot semi-arid climate. Generally, it has a temperate climate with hot summers and mild winters. During the austral winter, the days are warm and nights cool to cold.
Average rainfall:	250-350 mm per year
Precipitation:	The least precipitation occurs in June and the highest occurs in January with an average of 350 mm annually.
Temperature:	Warm climate with temperatures exceeding 30^{o}C for most of the year apart from May, June and July. The average maximum temperatures are between 32^{o}C and 34^{o}C, whilst average minimum temperatures are around 8 ^{o}C to 10^{o}C.
Humidity:	The relative humidity levels average during the least humid months of the year (i.e. September and October) is around 10-20% and the most humid month is March with 70-80% humidity. Namibia has a low humidity in general, and the lack of moisture in the air has a major impact on its climate through reduced cloud cover, low precipitation and high rate of evaporation.
Wind and Evaporation:	There is a high evaporation which peak in the windy months of September and October. Winds are however moderate and mostly from the east, throughout the year.

(Source: Atlas of Namibia, 2003)

5.1.2 HYDROGEOLOGY AND SURFACE DRAINAGE

Drainage in the region is in minor ephemeral rivers in the northern direction into the Swakop River, which drains into the Atlantic Ocean at Swakopmund. There is a nearby surface water bodies (small stream) adjacent to the site, where the storm water flow into. The proposed project will not pose a threat of pollution to the nearby small stream because the fuel tanks will be above ground and self bunded to contain any leakage. Furthermore, the proponent may need modify it by covering the stream on top while still allow storm water to flow under to prevent pollution.

In Addition to this, there are three boreholes located within a radius of 1km from the project site in the farm. Currently only two bore holes are in use, the other is not in use anymore. The boreholes water is not used for human consumption, but only for road construction purposes and compacting the soil.

5.1.3 TOPOGRAPHY & GEOLOGY

Windhoek is located in the central area of the plateau at about 1700 meters with the surrounding mountains reaching a height of over 2000 meters.

The fuel consumer installation and storage facility is located in the Khomas Region which is mostly comprised by the Swakop Group. The complex geology of the Windhoek area is a result of numerous folding and faulting episodes, including thrusting and rifting, to which the area has been subjected. Metasedimentary rocks of the Swakop Group, which is part of the Damara Sequence, constitute the Windhoek Aquifer. A number of north- to north-westerly striking faults and joints found in Windhoek form the major underground water conduits and hence determine the conditions of the aquifer. Secondary porosity gives rise to high aquifer transmissivity is best developed in faults with post-hydrothermal alteration brecciation in quartzitic environments. Moreover, host rock fracturing along fault planes results in better development of secondary porosity in quartzite compared to schistose terrain such that the aquifer reaches its maximum potential in this type of setting. (**See Appendix A, Hydrogeological Map)**.

5.1.4 SOILS

The subsurface soil is brown, coarse grained sand and rocky cover. According to the Atlas of Namibia (2002), the major type of soils in this area are classified as Lithic Leptosols, with a low relative fertility.

5.1.5 VEGETATION OF THE STUDY AREA

Windhoek is located within the Acacia tree and shrub savanna specifically under highland shrub land (Mendelsohn et al, 2003). The vegetation structure is classified as shrubs and low trees. Generally average plant production is high and variation in green vegetation biomass is low (5-10%).

The site is located of a pre-existing farm land, which is already cleared and devoid of vegetation no need to clear any tree, however there are several tree species (*Vachellia Erioloba*) adjacent to the site and they will be preserved as part of development. *(*see **appendix A, Vegetation map).**

5.1.5.1 Alien species

During the site visit, no alien species were observed at the site.

5.1.6 FAUNA

Below is a summary of the general faunal data deduced from the Atlas of Namibia, by Mendelsohn et al 2003. During site visit no fauna observed on site.

Table 6. Summary of General Fauna Data (Atlas of Namibia)

Mammal Diversity	76-90 Species
Bird Diversity	201- 230 Species
Reptile Diversity	61-70 Species
Frog Diversity	16 - 19 Species
Termite Diversity	7-9 Genera
Scorpion Diversity	10 - 11 Species

Source: Atlas of Namibia

5.2 SOCIO-ECONOMIC ENVIRONMENT

Windhoek is a capital city of Namibia and many people migrate to the city to search for greener pastures hence resulting in population increase. According to NPC (2011), the population of the Khomas region was 325 858 which had increased from 250 262 in 2001. Annual growth rate in the region was estimated to be 3.1% which has suddenly increased from the 1.9% in 2001 (NPC Census 2011). Population growth in the region implies that more employment opportunities is required so as to cater for the growing population. 73% of

people in the region, their main source of income comes from wages and salaries and only 1% from farming (NPC Census 2011). Windhoek provides a central linkage to all corners of the country and international borders ions including lodges, campsites, and hotels.

CHAPTER SIX: PUBLIC PARTICIPATION

Environmental Management Act (No 7 of 2007), section 2 states that public participation in decision making affecting the environment shall be promoted. Fair and equitable access to natural resources shall be promoted. This section makes the stakeholder consultation an integral part of the environment management process. Environmental Management Act (No 7 of 2007), empowers the local community to participate in the implementation and promulgation of legislation and policies that secure sustainable management of natural resources, while promoting justifiable economic and social development hence public consultation forms a vital component of the process.

This consultation process is a valuable source of information on key impacts, potential mitigation measures and the identification and selection of alternatives. The openness and transparency which was practiced in this process ensured that unbiased information was produced from this process. It is anticipated that the stakeholder participation will be maintained throughout the project life-cycle and integrated with the Environment Management Plan. The key stages of this public consultation process were public information, consultation and participation.

6.1 OBJECTIVES OF THE STAKEHOLDER CONSULTATION PROCESS

The objectives of the stakeholder consultation are;

- To fully inform the stakeholders about the fuel consumer installation facility project and to give the stakeholders the confidence that their concerns and any negative impacts would be addressed while the positive ones would be enhanced.
- To gather potential negative and positive environmental impacts associated with the proposed project from the stakeholders' perspectives.
- To engage stakeholders for the effective mitigation and enhancement of negative impacts and positive impacts arising from the proposed project respectively.

6.2 NOTIFICATION OF INTERESTED AND AFFECTED PARTIES

Public participation can be any process that directly engages the public in decision-making and gives full consideration to public input in making that decision.

The consultation was facilitated through the following means:

- An advertisement to register and participate in this study was placed in two (2) local newspapers (NewEra and Confidante) to inform all interested and/or affected parties about the intended project. A Background Information Document (BID) containing the project description, the ESA process was made available on request from Nam-Geo Environmental solution. The main aim of the BID to Interested and Affected Parties is to bring awareness and clarity about the project to be developed in their area. (**see copy of the BID is provided in Appendix B).**

6.3 Stakeholders and Interested and Affected Parties

There was no need to organise a public meeting, because the site is located on a remote area, however Namibia 4×4 Rental (identified neighbour) was contacted and informed about the intended project. A BID and questionnaires were further emailed to them to rise their concern, comment regarding the project. (**See appendix B for their response).** There was no other identified potential neighbour.

CHAPTER SEVEN: ASSESSMENT OF ENVIRONMENTAL IMPACTS

7.1 IMPACT ANALYSIS AND ASSESSMENT

This section provides an introduction to the assessment of potential impacts and the criteria used in making each assessment. Firstly, in line with international practice, a broad definition of "Environment" is adopted, which incorporates both bio-physical and socio-economic components., Both negative and positive impacts on the environment will be considered below. Moreover, this report will recommend measures to mitigate negative impacts and optimize (or enhance) positive impacts.

7.2 METHODOLOGY FOR ASSESSING IMPACTS AND ALTERNATIVES

The potential impacts on the environment from the anticipated project are identified based on the nature of the various activities associated not only with the project implementation and operation, but also on the present status of the environmental quality at the project site. A number of potential impacts were identified.

7.3 IDENTIFICATION OF POTENTIAL IMPACTS OF THE PROJECT

Table 7: The positive impacts of the project

Positive Impacts
Accessibility and supply of diesel fuel to the road construction vehicles Windhoek-Hosea Kutako airport road.
Employment creation.
Generation of revenue.
Improve the welfare of the locals through increased income earned.

Table 8: The Negative impacts associated with the project.

Negative impacts	
Air Environment	**Water Environment**
Impacts on ambient air quality	Impacts on ground/surface water quality
Impacts on ambient noise	**Socio –Economics**
Land Environment	HIV/AIDS
Soil contamination	Safety and security
General waste	Risk of Occupational health and safety.
Fire and explosions	Impact on traffic
Hydrocarbon waste	**Indirect Impacts**
	Cumulative impacts

7.4 IMPACT ANALYSIS

In this section, the impacts of the fuel consumer installation facility project on the human and biophysical environment are evaluated and analyzed (**table 9**). Following the identification of the different potential environmental impacts, the impact analysis framework looked at the impacts under the following categories:

Table 9: Ranking matrix for Environmental Significance.

	Temporal scale			**Score**
	Short term	Less than 5 years		1
	Medium term	Between 5 and 20 years		2
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent.		3
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there.		4
	Spatial Scale			
	Localized	At localized scale and few hectares in extent		1
	Study area	The proposed site and its immediate environment		2
	Regional	District and Provincial level		3
	National	Country		3
	International	Internationally		4
EFFECT	**Severity**		**Benefit**	
	Slight/Slightly Beneficial	Slight impacts on the affected system(s) or party(ies)	Slightly beneficial to the affected systems(s) or party(ies)	1
	Moderate/Moderately Beneficial	Moderate impacts on the affected system(s) or party(ies)	An impact of real benefit to the affected system(s) or party (ies)	2
	Severe/Beneficial	Severe impacts on the affected system(s) or party(ies)	A substantial benefit to the affected system(s) or party(ies)	4
	Very Severe/Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party(ies)	8
	Likelihood			
LIKELIHOOD	Unlikely	The likelihood these impacts of occurring is slight		1
	May occur	The likelihood of these impacts occurring is possible		2
	Probable	The likelihood of these impacts occurring is probable		3

	Definite	The likelihood is that this impact will definitely occur	4

The analysis of the environmental impacts is focusing on the, operational and decommissioning phases of the project. Wherever possible, the impact will be discussed under specific project activity (**table 14**).

Table 10: Matrix for impacts and their environmental significance.

Environmental Significance		**Positive**	**Negative**
LOW	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent development.	4-7	4-7
MODERATE	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which, in conjunction with other impacts may prevent its implementation.	8-11	8-11
HIGH	A serious impact which, if not mitigated, may prevent the implementation of the project. These impacts would be considered by society as constituting a major and usually long term change to the natural and/or social environment and result in severe negative or beneficial effects.	12-15	12-15
VERY HIGH	A very serious impact which may be sufficient by itself to prevent the implementation of the project. The impact may result in permanent change. Very often these impacts are immitigable and usually result in very severe effects or very beneficial effects.		

Likelihood	**Effect (temporal scale+ spatial scale+ severity)**														
		3	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	16
	1	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	3	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	4	7	8	9	10	11	12	13	14	15	1	17	18	19	20

7.5 IMPACT EVALUATION

7.5.1 POTENTIAL IMPACTS OF THE PROJECT DURING THE OPERATIONAL PHASE:

IMPACTS OF THE PROJECT DURING OPERATION:

1.DUST

The site is already cleared, compacted. No major construction will be required hence less dust will be produced during the setting up and site establishment.

Mitigation measures:

- Employ dust suppression measures during decommissioning
- Ensure all employees have appropriate PPE in the relation to dust and vapors
- Regular monitoring and review to ensure safe operation.

Environmental Significance: The overall environmental significance of dust that will result from this project is low with the score of 7. Dust will extend on the surrounding area within project boundary and quickly reversible. The occurrence will be on the short term and the possibility of having dust is definite.

2. FIRE HAZARDS AND EXPLOSIONS

Fire hazard and Explosion can happen during the operation phase. Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions measures are not taken to prevent their ignition, fire and subsequent safety risks may arise. Fire risk and explosion during tank removal is a huge risk because of the use of machinery on a highly volatile environment. Existence of fuel fumes from the tank during removal also poses a risk of ignition within the surrounding areas.

Mitigation measures:

- Sufficient water should always be available in case of fire for firefighting purposes.
- Any device or action that could cause ignition or spark shall not be permitted on near the fuel tank
- Warning signs prohibiting possible ignition agents should be clearly displayed on site

- Good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the fuel tank
- Firefighting trainings
- The Emergency Response Plan should be implemented and should address the potential spills
- Regular inspections to inspect and test firefighting equipment and pollution control measures at the storage facility
- All fire precautions and fire must be in accordance with SANS 10089-1:2008, or better
- Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognize that a responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to prevent, curb and avoid conditions that may result in fires
- There must be an emergency evacuation point.
- There is need to ensure that all employees to work on decommissioning are made aware of the safety concerns of their task used does not result in ignition
- Clear perimeter or boundary within which no other person can pass through, except for the decommission team
- Fire control and suppression equipment in place during the entire process
- An assembly area should me established on site and training of stuff on firefighting and first aid administration

Environmental Significance: The overall environmental significance is moderate with the score of 8. Fire hazard and explosion will extend on the surrounding area within project boundary and quickly reversible. The frequency will be short term and the likelihood of this impact occurring is possible.

3. IMPACT ON SOIL

The site is already cleared and compacted. Soil contamination due to improper handling of hazardous waste may occur. The impact on soil is expected to be localized and of low environmental significance.

Mitigation measures:

- Proper care should be taken so that there is no spill that would cause soil contamination.
- Spill kits and absorbents should be readily available on site.
- Hazardous waste properly handled and sent for disposal to appropriate disposal areas.

- The management to maintain records of contaminated waste on a regular basis.

Environmental significant: The overall environmental significance is low with the score of 5. Impact on soil will slight, extending on the surrounding area within project boundary and quickly reversible. The frequency will be short term and the likelihood of this impact occurring is possible.

4. SURFACE/GROUNDWATER CONTAMINATION.

Oil spillages might occur during offloading of fuel from the road tanker truck or dispensing fuel into the construction vehicle and this can consequently affect ground and surface water quality.

Mitigation measures:

- Risks of such an impact can be lowered through proper training of staff and installation of suitable containment structures.
- The tanks are above ground and self bunded.
- There should be a concrete slab at the filler and loading points leading to an oil and water separator.
- The site should have an oil interceptor system on site linked to an oil and water separator pit.
- Proper toilet facilities.
- Empty containers of chemicals should not be dumped anywhere; all the garbage should be collected by the licensed garbage collectors.
- Over filling of tanks must be avoided.
- Equipment and materials to deal with spill clean-up must be readily available on site and staff must be trained in the usage of these products.
- Spillage control procedures must be in place according to SANS 10089-1:2008 and SANS 100131-2 standards, or better.
- Proper training and induction of operators must be conducted.
- Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990).
- An emergency response plan to give guidelines on spillages or leakages.

Environmental Significance: The overall environmental significance is low with the score of 6. Surface and groundwater contamination will be localized scale with moderate severity. The frequency will be short term and the likelihood of this impact occurring is possible.

5. AIR QUALITY (EMISSIONS)

Hydrocarbon vapor can be released into the atmosphere when dispensing fuel for vehicles and when tanker trucks are offloading fuel. Hydrocarbons are in a class of compounds primarily composed of carbon and hydrogen and there are major components of oil, natural gas and pesticides. These substances contribute to the greenhouse effect and global warming, depletion of the ozone, increase occurrences of cancer, respiratory disorders and reduce the photosynthetic ability of plants noxious smell will be experienced during the offloading and dispensing of fuel only causing the effect to be temporal.

Mitigation measures:

- Trucks idling time shall be minimized by putting up educative signs.
- All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner.
- Employees working with fuel must be provided with proper Personal Protective Equipment (PPE).

Environmental Significance: The overall environmental significance is low with the score of 7. Impact on air quality will extend on proposed site and its immediate environment and quickly reversible. The frequency will be short term and the likelihood of this impact occurring is possible.

6. HYDROCARBON WASTE

Liquid waste in the form of diesel is normally the potential waste that will be generated on site. Fuel spillages during off-loading into the tanks and dispensing fuel in to the vehicles may occur.

Mitigation measures:

- Hydrocarbon waste management is vital among employees and management.
- Use of absorbents are essentially recommended for containing spillages.
- Adequate supplies of absorbents should be readily available at all times
- Waste separation should be implemented to avoid mixing of contaminated waste and general waste
- Proper monitoring of the product levels in the tank must take place to eliminate overfilling
- Appointment of a certified waste handling contractor to handle all hydrocarbon waste
- Waste minimization policy. bioremediation of contaminated soil
- Frequently cleaning of oil/ water separator
- Spill containment around the pump

- Spillage bin and clean up kits
- Construct oil/water separator
- This impact can be reduced through proper training of the operators
- All spills must be cleaned up immediately and if spill is more than 200 L, it must be reported to the Ministry of Mines and Energy
- The presence of an emergency response plan and suitable equipment is advised, so as to react to any spillage or leakages properly and efficiently

Environmental Significance: The overall environmental significance is low with the score of 6. Impact of hydrocarbon waste will be slight, extend on a localized scale and quickly reversible. The frequency will be short term and the likelihood of this impact occurring is possible.

7. GENERAL WASTE

Litter in the form of papers and plastics is might be produced. In general, the impact of waste is expected to be localized and it will be of low significance if mitigation measures are implemented.

Mitigation measures:

- Strictly, no burning of waste on the site or at the disposal site, as it possess environmental and public health impacts;
- Place bins around the site
- Separation of waste should be clearly indicated.
- Waste should be dumped at an authorized designated area
- Regular inspection of the site

Environmental Significance: The overall environmental significance is low with the score of 5. General waste will cause slight impact that will be localized and quickly reversible, however the frequency will be short term and the likelihood of this impact occurring is possible.

8. OCCUPATIONAL HEALTH AND SAFETY RISKS

OHS hazards which might be encountered include dermatitis which is caused by physical contact with fuel. Prolonged exposures might result in inhalation of fuel vapors hence possibilities of causing cancer.
Fire hazards can also be a potential risk.

Mitigation measures:

- Frequent distribution of protective equipment to employees and safety shoes where applicable).
- Conduct Hazard identification and risk assessments.
- All Health and Safety standards specified in the Labour Act should be complied with.
- Train workers how to use adequately the equipment.
- Trainings on occupational health and safety.
- Safety talks to be done every day before commencement of work.
- Provisions of First Aid Box and trained person in first aid.
- Any leakage/spillage shall be immediately attended and provision of urgent cleaning.
- Work area will be monitored to maintain work environment free from any hazards.
- Provision of adequate and maintenance of Fire Extinguishers at site.
- Provisions of immediate accident/incident reporting and investigation.
- Safety Posters and slogans should be exhibited at conspicuous places.
- Cleanliness must be maintained so as to avoid health related hazards.

Environmental Significance: The overall environmental significance is low with the score of 6. Impact on occupational health and safety will moderate and localized. The frequency will be short term and the likelihood of this impact occurring is possible.

9. SAFETY AND SECURITY

During operation phase, robbers might be attracted especially during the night.

Mitigation measures:

- Employing security officers.
- Install CCTV cameras. (If possible)
- No keeping of the safe keys on site
- Emergency numbers should be displayed clearly at the fuel consumer installation and storage facility

Environmental Significance: The overall environmental significance is low with the score of 6. Impact on safety and security will be moderate and localized and however the frequency will be short term and the likelihood of this impact occurring is possible.

10. RISK AND SPREAD OF HIV/AIDS

It is well known that projects are linked with the spread of HIV/AIDS. The fact that people will be coming from different locations and meeting at one place for work can result in anti-social behaviours like prostitution thus the spread of HIV/AIDS. For that reason, it is very important to implement the mitigation measures to reduce the spread of HIV/AIDS. If educational campaigns are carried out, it will bring full awareness to employees about the virus hence reducing the spread of the virus. It is vital to note that if all the listed below mitigation measures are implemented an HIV/AIDS free workforce will be achieved within the first month of the commencement of the project.

Mitigation measures:

- Contractor should allocate time for the employees to visit their families to prevent multi relationships which can aid in the spreading of HIV.AIDS if one of them is infected.
- Sensitization campaign to the staff on HIV/AIDS and other STDs,
- Free distribution of condoms on site

Environmental Significance: The overall environmental significance is high with the score of 13. Impact on HIV/AIDS will be affect the whole nation and is permanent. The frequency will be short term and the likelihood of this impact occurring is possible.

11. CUMULATIVE IMPACTS

During the operational phase there might be cumulative impacts. Fuel is going to be off-loaded which can result in the release of hydrocarbon vapors which have an impact of reducing the air quality and also causing fires and explosions. Hydrocarbon vapors if released in the atmosphere can also cause global warming, reduction of photosynthesis of plants and cancer.

Mitigation measures:

- All possible sources of ignition in the entire area should be eliminated
- Sufficient water should always be available in case of fire for firefighting purposes
- Vent pipes should be placed in such a manner as to prevent impact on potential receptors
- Regular check tests.

Environmental Significance: The overall environmental significance is moderate with the score of 10. Cumulative impacts will be moderate and affect the nation and however the frequency will be short term and the likelihood of this impact occurring is possible.

12. IMPACT OF TRAFFIC

B6 main road will be used as the access point to the site. The cases of traffic congestion will be likely to happen and accident may occur. If mitigation measures are put into action, the probability of traffic congestion and accidents happening will be unlikely and the significance will be low.

Mitigation measures:

- Proper signage to warn vehicles about the construction on the road due to heavy vehicle movement.
- Drivers should adhere to all the traffic rules.

Environmental Significance: The overall environmental significance is low with the score of 7. Impact on traffic will be moderate and localized, however the frequency will be short term and the likelihood of this impact occurring is probable.

7.5.2 POSITIVE ECONOMIC IMPACTS

1. EMPLOYMENT CREATION

The fuel consumer facility will create employment opportunities during operation and decommissioning phase. This in the long run will generate wealth and improve livelihoods of people. The type of jobs will range from skilled, semi-skilled and unskilled and locals will be recruited.

Enhancement required:

- Employ locals in all casual labour
- When recruiting, the responsible contractor is to ensure gender equality is taken into consideration that both men and women are employed equally and treated equally.
- Equity, transparency, to be put into account when hiring and recruiting
- In terms of human resource development and capacity building, the contractor is to enforce training programs that skilled workers should always train unskilled workers when

necessary, in order for them to enhance their performances and to gain more knowledge that they might demonstrate at other levels in future.

Environmental Significance: The overall environmental significance is very high and beneficial with the score of 18. Employment creation will Impact the nation positively, by reducing the unemployment rate and it also will improve the livelihood of people.

2. AVAILABILITY OF FUEL.

The storage facility will reduce the distance to be travelled to the nearest filling station to filing up construction vehicles.

Enhancement required:

- Maintain a consistent supply of fuel
- Make provision of timely delivery of fuels to the site.

Environmental Significance: The overall environmental significance is low with the score of 18. The availability of diesel fuel on site benefit the road construction project and will also save time to drive to the nearest service station to fill up their vehicles.

3. IMPROVEMENT OF GENERAL WELFARE

The project has a high probability of improving the general welfare for the local population. The locals will benefit during the life span of the project. It is essential to note that priority in terms of employment will be given to locals hence creating a high possibility for the locals to get more money and improve their livelihoods.

Enhancement required:

- First preference will be given to the locals during employment
- The proponent will give employees market related salaries; this will improve the lives of the people.

Environmental Significance: The overall environmental significance is very high and beneficial with the score of 18. Employment creation will benefit the nation by reducing the unemployment rate and it also will improve the livelihood of people.

4. GOVERNMENT REVENUES

According to the law of Namibia, operating companies are to pay taxes. The proponent will definitely pay tax to the government hence this will benefit the nation at large given that money generated from taxes is diverted to the public by the government.

Mitigation measure:

- Continuous payment of taxes due as regulated in the Namibian laws.

Environmental Significance: The overall environmental significance is very high and beneficial with the score of 18. Paying government revenue will benefit the nation positively, by increasing the GDP.

5. ECONIMIC DEVELOPMENT

Mitigation measure:

- The proponent should participate in community development programs.

Environmental Significance: The overall environmental significance is very high and beneficial with the score of 18. Economic Development will benefit the whole nation at large.

7.6 IMPACTS ASSOCIATED WITH DECOMMISSIONING OR SITE CLOSURE

The decommissioning phase of the fuel consumer installation facility project is difficult to visualize at this point in time, but as soon as the road construction project (Windhoek-Hosea Kutako Airport) is complete, the site will close down. Impacts associated with this phase will be similar to some impact of the operation phase. The possibility of spillages happening if tanks are not properly emptied is high. The decommissioning of tanks should be overseen by a professional from the oil industry and the Environmental Officer.

Prior the decommissioning of the site or a qualified environmental consultant should be appointed to conduct a due diligence survey to ensure the environmental status of the site.

- Ensure that the site follows all relevant by-laws and policies
- A contamination assessment should be carried out to assess and determine whether any pollution occurred during operations.
- Asses the site to determine if the presence of contamination present any additional risk to human health and the environment. If any contamination occurs that it is remediated to acceptable levels
- Site rehabilitation

7.7 OVERALL SITE SENSITIVITY

Fire and explosions, cumulative impacts, falls under the range of moderate environmental significance and HIV/AIDS under the range of high environmental significance, when unmitigated. This implies that these impacts require mitigation yet they are not sufficient by themselves to prevent the implementation of the project. Other stated impacts remain of low significance which implies that mitigations are required but the impacts by themselves are not sufficient even in combination with other low impacts to prevent the commencement of development.

Table 11: Summary of potential impacts associated with the proposed project

Impact	Score	Significance of the impact (The rating are negative unless otherwise specifies)	
		Unmitigated	Mitigated
Dust	7	L	L
Fire hazard and explosion	8	M	L
Impact on soil	5	L	L
Surface/groundwater contamination	7	L	L
Impact of air quality	7	L	L
Hydrocarbon waste	6	L	L
General waste	5	L	L
Occupational health and safety risk	6	L	L
Safety and security	6	L	L
Risk and Spread of HIV/ AIDS	13	H	L
Cumulative impacts	10	M	L
Impact of traffic	7	L	L

(L-Low, M-medium, H-high)

7.8 ENVIRONMENT MANAGEMENT AND MONITORING PLAN

An EMP has been compiled to seek a pro-active route by addressing all potential identified impacts before they result in adverse impacts to the environment. Management and monitoring options are highlighted and elaborated in detail to allow minimizing negative impacts to the receiving environment as well as facilitating the observation of sustainable development practices.

The EMP acts as a separate document, which can be used on the site during the various phases (operational and decommissioning) of development. All contractors and sub-contractors participating in the project should be made aware of the contents of the EMP, and to plan their activities accordingly in an environmentally approach. Periodic review of the EMP should be compulsory and to maintain good environmental standards.

The formulated EMP complements the findings of the ESA and ensures that mitigation measures are made binding on the owner of the facility as well as all contractors during all the phases. Please refer to the Environmental Management Plan (EMP).

CHAPTER EIGHT: CONCLUSIONS AND RECOMMENDATIONS

In general, the fuel consumer installation facility project will pose limited environmental risks. Nonetheless major impacts which are mainly associated with fuel consumer installation and storage facilities are fire and explosions, hydrocarbon waste (spillages) which can consequently contaminate surface/groundwater. This can however be overcome by close follow-up and implementation through the recommendation in the Environmental Management Plan. It is vital to note that all environmental risks can be minimized and managed through implementing preventative measures and good management systems. This project is associated with positive impacts such as creation of jobs and increase in government revenue. The below recommendations have been brought forward.

8.1 RECOMMENDATIONS OF PRACTITIONER

Nam Geo-Enviro Solution recommendations to Eco fuel Investment CC:

The projects mitigation measures should be incorporated during all phases.

- The fuel consumer installation and storage facility must be according to the SANS 10089-1:1999, or better standards
- Periodic sampling/monitoring of waste water from the oil/water separator pit during operation phase
- It is recommended that environmental performance be monitored regularly at least bi-annually to ensure compliance and that if any "fault" occur, corrective measures and precautions be taken if necessary. The monitoring and audit reports should accompany the application for renewal of the environmental clearance certificate after 3 years.

CHAPTER NINE: REFERENCES

Constitution of the Republic of Namibia (1990)

DEAT (2006) Guideline 4: Public Participation in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series. Pretoria: Department of Environmental Affairs and Tourism (DEAT).

Education Statistics. (2012) Education Management Information System. Namibia: Ministry of Education.

Environmental Management Act (2007)

Environmental Management Regulations (2012)

Mannheimer, C.A & Curtis, B,A.(eds).2009. Le Roux and Muller's guide to the Trees and Shrubs of Namibia. Windhoek: Macmillan Education Namibia.

Mendelsohn .J,Jarvis. A, Roberts.C, Robertson .T (2003).Atlas of Namibia. Cape Town South Africa: David Philip publishers,

Miller, R. McG. (2008). The Geology of Namibia, Volume 2, Neoproterozoic to lower Paleozoic, Windhoek: Ministry of Mines and Energy, Geological Survey

Ministry of Health and Social Services Namibia. (2013). *Demographic and Health Survey*.
Ministry of Health and Social Services. (2015).The Namibia Aids Response Progress Report 2015, Namibia: MHSS.

Namibia Statistics Agency. (2011). *Namibia 2011: Population & Housing Census Main Report*. Namibia Statistics Agency.

Petroleum Products and Energy Act of Namibia (1990)

South African National Standard 10089-1. (2008).The petroleum industry part 1: Storage and distribution of petroleum products in above-ground bulk installations. South Africa: Standards South Africa publishers.

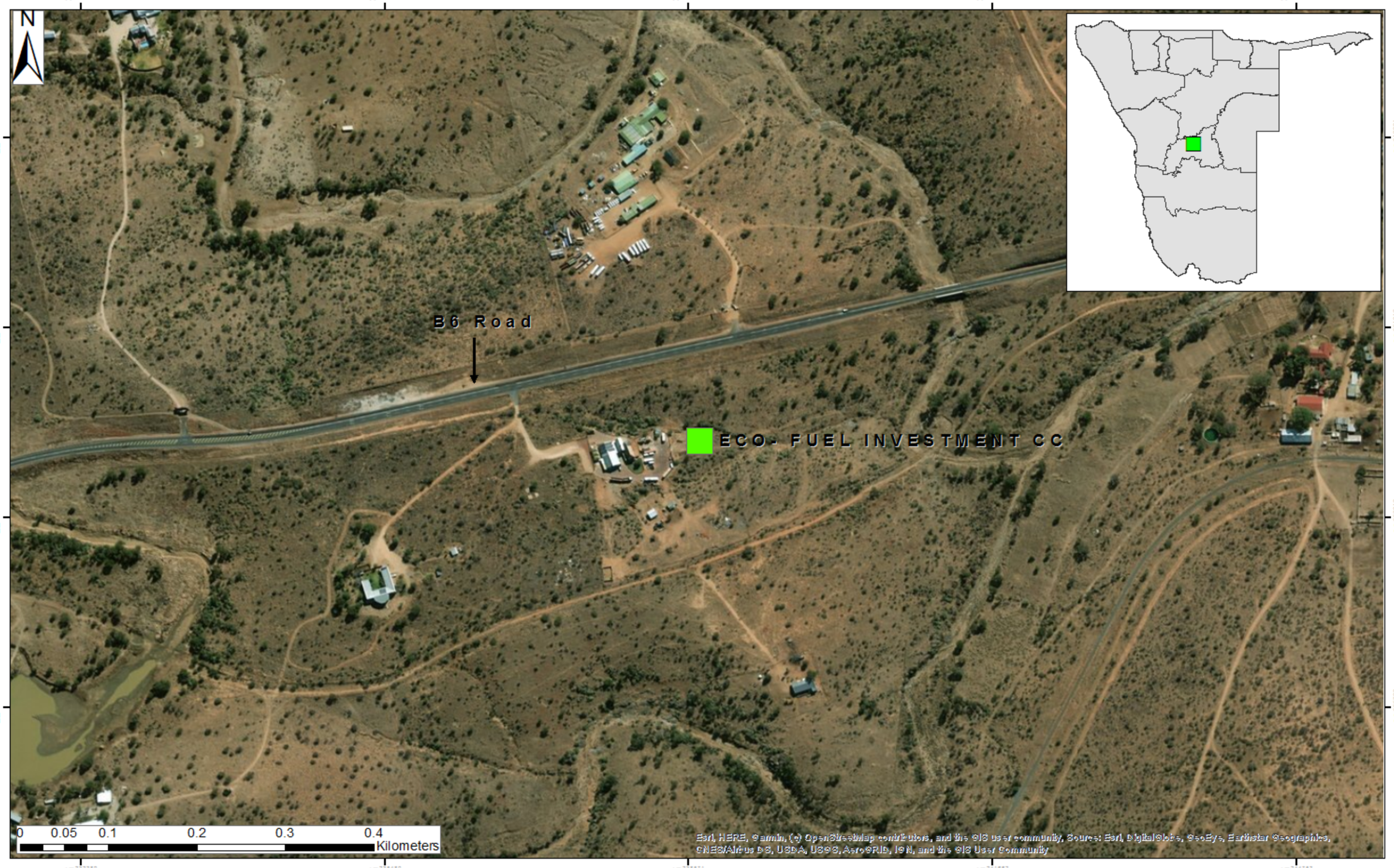
South African National Standard 1186-3. (2013). 3 South African National Standard Symbolic safety signs Part 3: Internally illuminated signs. South Africa: Standards South Africa publishers.

United Nations Development Programme Namibia (2005) UNDP Namibia Economic Review 2005, Windhoek: UNDP Namibia.

Water Resources Management Act 11 (2013).

APPENDIX A

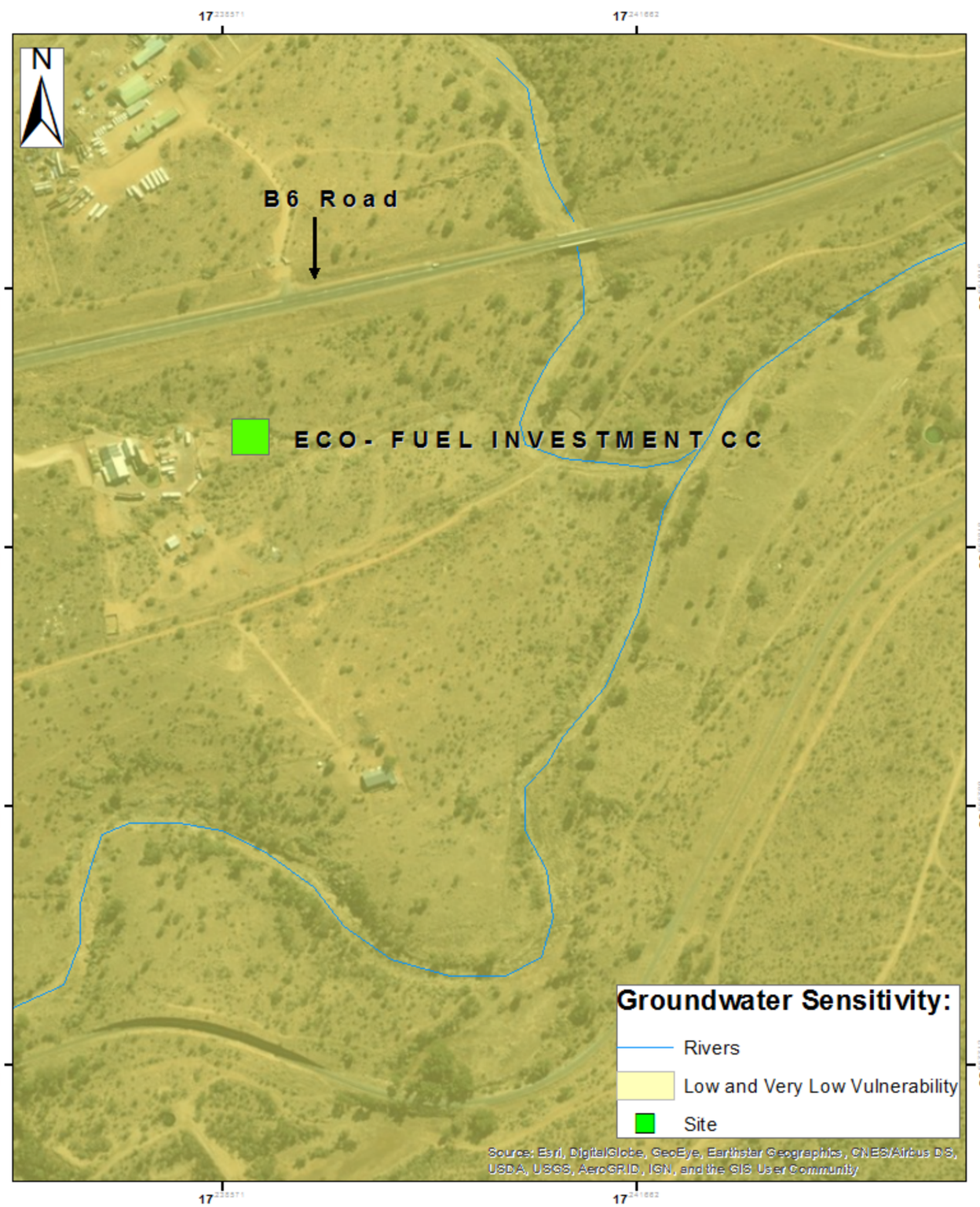
Maps (site location, Hydro-Geology, Vegetation)

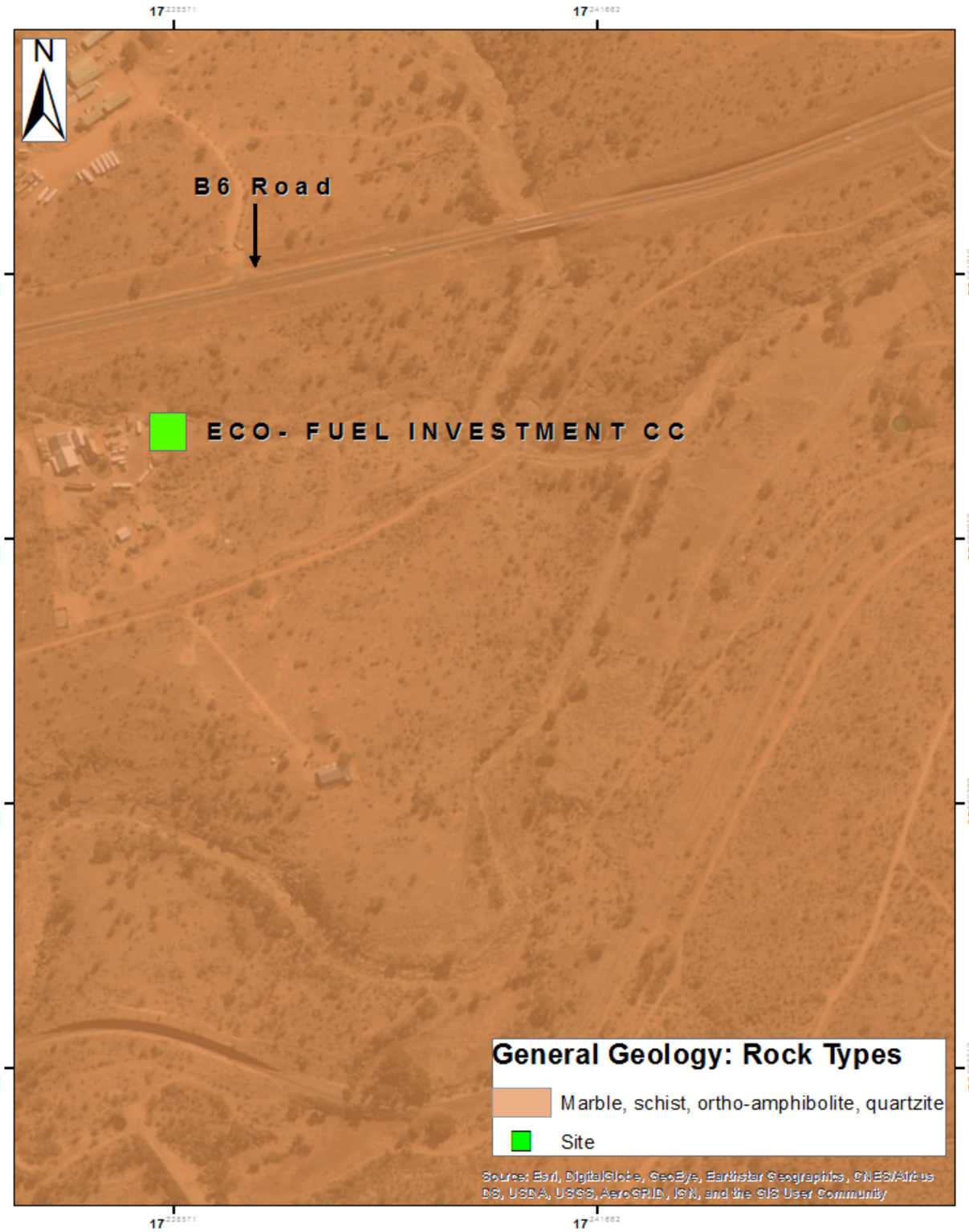


NAM GEO ENVIRO SOLUTIONS
59 Pasteur Street, Windhoek West
Windhoek
P.O OBX 3343
Tel: +264 (61) 402246
E-mail: info@geoenvirosol.co.za

ECO-FUEL INVESTMENT CC
KHOMAS REGION
S-22.553025 and E 17.238812

COORDINATE SYSTEM: GCS WGS 1984
DATUM: WGS 1984
UNITS: DEGREE



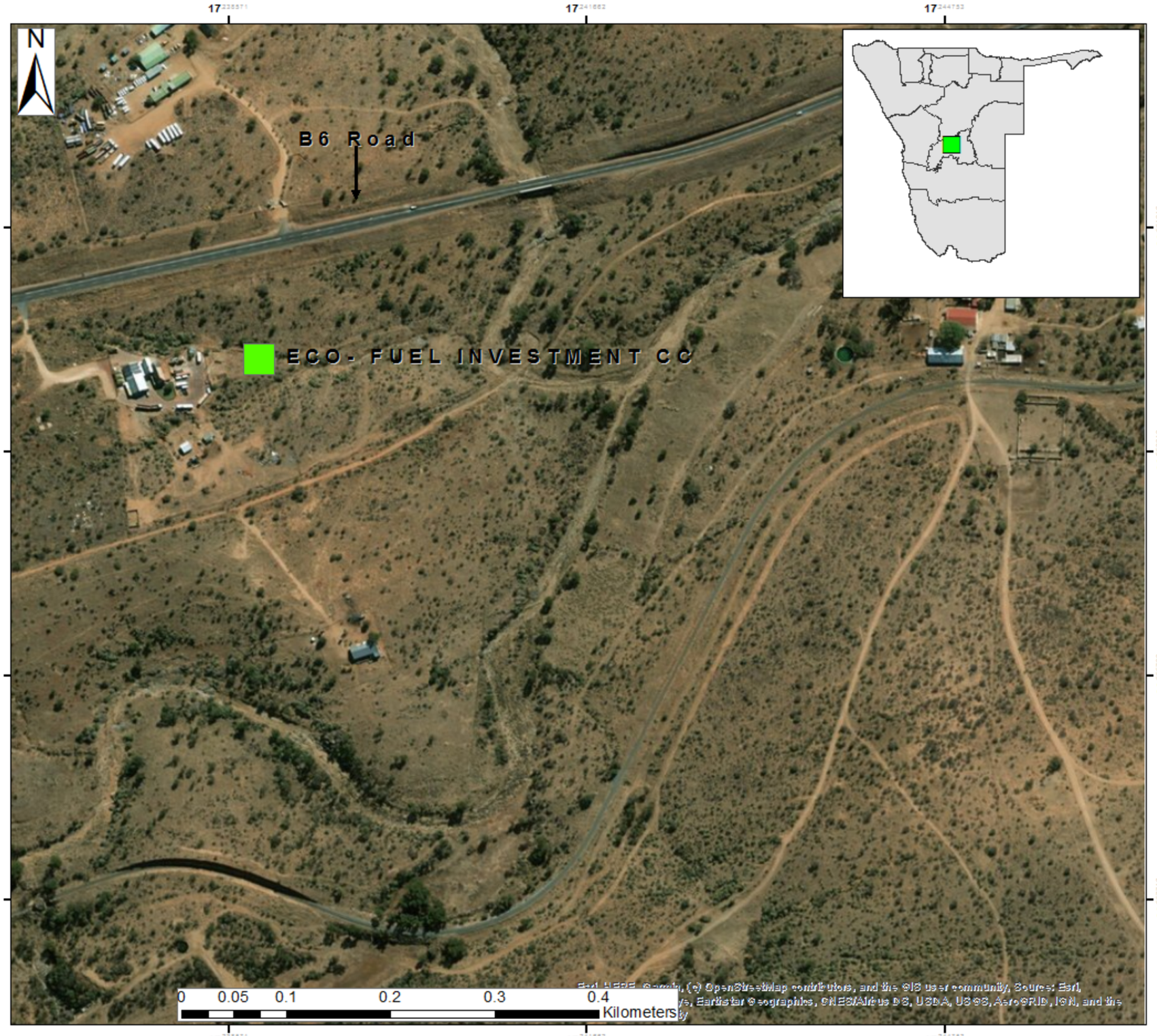


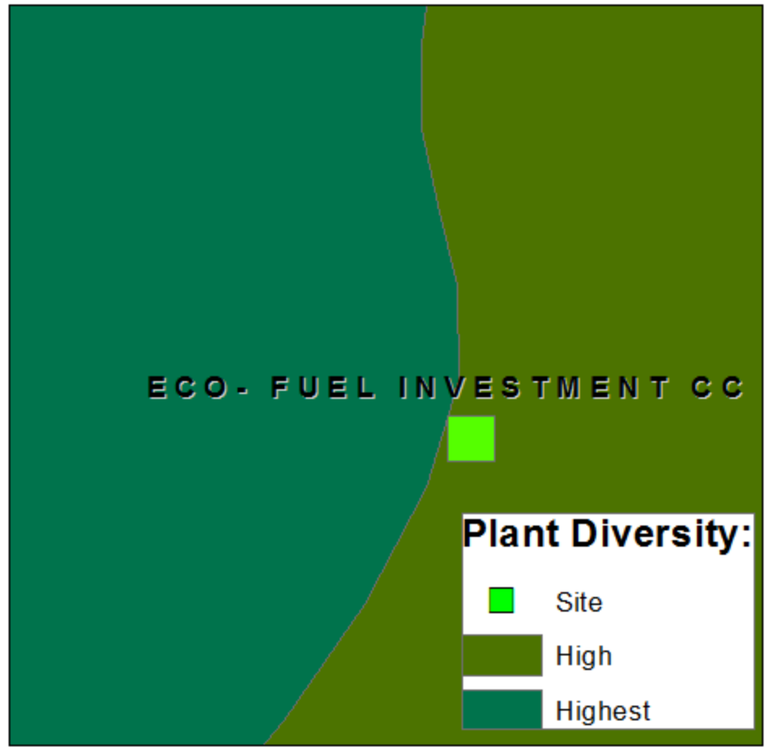
Nam Geo-Enviro Solutions

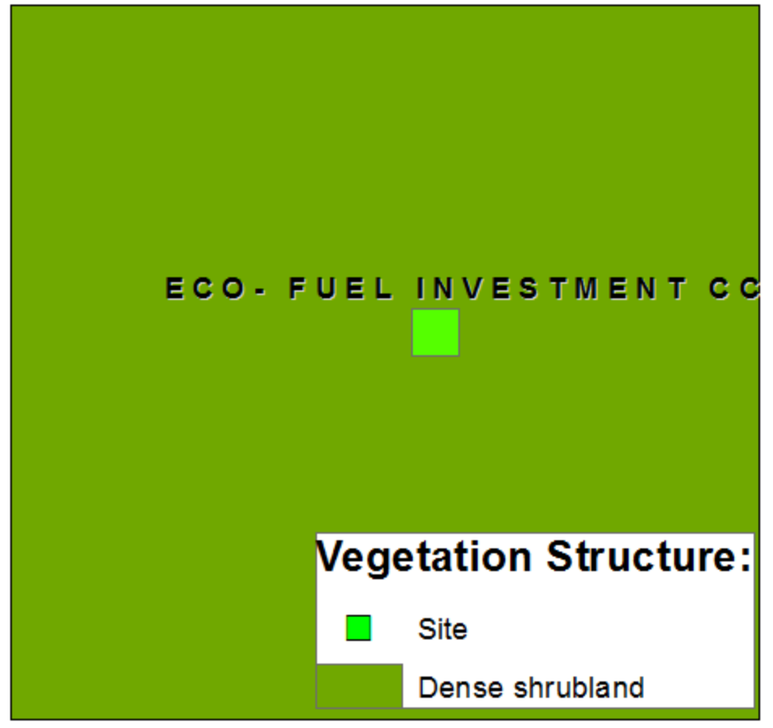
NAM GEO ENVIRO SOLUTIONS
Lafrenz, Industrial street, Sun Industrial Park
Unit 37
P.O BOX 3343
Tel: +264 (61) 402246
E-mail: info@geoenvirosol.co.za

ECO-FUEL INVESTMENT CC
KHOMAS REGION
S-22.553025 and E 17.238812

COORDINATE SYSTEM: GCS WGS 1984
DATUM: WGS 1984
UNITS: DEGREE







NAM GEO ENVIRO SOLUTIONS
Lafrenz, Industrial street, Sun Industrial Park
Unit 37
P.O BOX 3343
Tel: +264 (61) 402246
E-mail: info@geoenvirosol.co.za

ECO-FUEL INVESTMENT CC
KHOMAS REGION
S-22.553025 and E 17.238812

COORDINATE SYSTEM: GCS WGS 1984
DATUM: WGS 1984
UNITS: DEGREE

Appendix B

Public participation (Adverts, BID, Comments)

Crop production: Success as a

needed to prepare the equipment fo
the planting season.

7. Soil conservation tasks

Inspect all existing structures such a
contours and watercourses.
Make the time to maintain or repai
these structures to avoid damage t
your valuable topsoil during the nex
rainy season.
If new structures need to b
established, you should start as soo
as possible.
Soil conservation measures nee
thorough planning and enough tim
to implement.

8. Purchase inputs

Shopping time should be well spent
Compare input products an
negotiate for the best price in orde
to keep the cost per hectare as lo
as possible.

Make your own observation
during the growing season to enabl
you to select the best product, suc
as a variety that performs well
or replace a product that did no
perform as expected.

Do not hesitate to put pressur
on the provider to ensure that the
products you order are correct and
available on time.

Remember: there are many
specialists and experts who would
like to help you with all these
activities. Don't run to them at the
eleventh hour. Plan ahead and call
them TODAY!

**This article was written by Phonnie du Toit and first appeared in Farming SA.*

Indonesia, UAE sign US$23 bn investment deals

guerrilla leaders. and more than 170 schools in the past close -*Nampa/AFP*

Nam Geo-Enviro Solutions

ENVIRONMENTAL IMPACT ASSESSMENT

NOTICE TO ALL INTERESTED AND AFFECTED PARTIES

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY FOR THE ROAD CONSTRUCTION PROJECT

Notice is hereby served to inform all potentially Interested and/or Affected Parties that an application will be made to the Environmental Commissioner in terms of Environmental Management Act (No. 7 of 2007) and the Environmental Assessment Regulations (2012) for the following intended activity:

Proponent: Eco-fuel Investment CC.

Project Name & Description: Operation of a temporary fuel consumer installation facility on portion 8 of farm 67, Kapps Farm, Windhoek. The fuel installation facility is purposed to supply diesel fuel to the road construction project (Windhoek - Hosea Kutako Airport road)

Project Location: The proposed site is located on portion 8 of farm 67, Kapps Farm, approximately 20km east of Windhoek, Khomas Region

Nam Geo Enviro Solution has been appointed by Eco-Fuel Investment CC as an independent environmental practitioner to conduct an Environmental Impact Assessment for the proposed operation of the fuel consumer installation facility.

Environmental Consultant: Nam Geo-Enviro Solutions (NGS)

All Interested and Affected Parties (I&APs) are encouraged to register with this study, submit your name and contact details. Background Information Document (BID) can be requested from the environmental consultant.

Submit all your issues, comments and opinions to Nam Geo-Enviro Solutions by 22 January 2020

Contact person: Ms. Martha Dumeni
Tel/Fax: +264 61 402 246,

Komao Mbuende
Manager: Internal Audit

2021 Census
PLAY YOUR PART, BE COUNTED

Census Mapping

15 October 2019 - August 2020

"Do we need to build more schools, hospitals and clinics? All this information can be answered through Census. I am ready, are you?"

Namibia Statistics Agency

Namibia Statistics Agency
P.O. Box 2133,
FGI House, Post Street Mall,
Windhoek, Namibia

Tel: +264 61 431 3200
Fax: +264 61 431 3253
Email: info@nsa.org.na
www.nsa.org.na

Namaza INV
NAMAZA INVESTMENT CC

ENVIRONMENTAL IMPACT ASSESSMENT

NOTICE FOR THE CONSTRUCTION OF A SERVICE STATION IN ONANKALI, OSHIKOTO REGION

MR JULIUS ANTONIUS HEREBY GIVES NOTICE OF THE AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION OF A SERVICE STATION IN ONANKALI. The EIA is being done as required under the Environmental Management Act No 7 of 2007 and the Environmental Impact Assessment Regulations of 2012. Interested and Affected Parties are hereby informed of the availability of the EIA report as detailed below.

PROPONENT: NAMAZA INVESTMENTS CC

PROJECT ACTIVITIES: SERVICE STATION WITH 3 FUEL DISPENSING PUMPS.

PROJECT LOCATION: ONANKALI VILLAGE, OSHIKOTO REGION

PUBLIC PARTICIPATION DEADLINE FOR COMMENTS is 04 FEBRUARY 2020 AND REPORT CAN BE OBTAINED FROM CONSULTANT.

CONSULTANT DETAILS: Julius Antonius
+264 (0) 81 877 8855
E-mail: j88antonius@gmail.com

Nam Geo-Enviro Solutions

ENVIRONMENTAL IMPACT ASSESSMENT

NOTICE TO ALL INTERESTED AND AFFECTED PARTIES

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY FOR THE ROAD CONSTRUCTION PROJECT

Notice is hereby served to inform all potentially Interested and/or Affected Parties that an application will be made to the Environmental Commissioner in terms of Environmental Management Act (No. 7 of 2007) and the Environmental Assessment Regulations (2012) for the following intended activity:

Proponent: Eco-fuel Investment CC.

Project Name & Description: Operation of a temporary fuel consumer installation facility on portion 8 of farm 67, Kapps Farm, Windhoek. The fuel installation facility is purposed to supply diesel fuel to the road construction project (Windhoek - Hosea Kutako Airport road)

Project Location: The proposed site is located on portion 8 of farm 67, Kapps Farm, approximately 20km east of Windhoek, Khomas Region

Nam Geo Enviro Solution has been appointed by Eco-Fuel Investment CC as an independent environmental practitioner to conduct an Environmental Impact Assessment for the proposed operation of the fuel consumer installation facility.

Environmental Consultant: Nam Geo-Enviro Solutions (NGS)

NOTICE FOR ENVIRONMENTAL IMPACT ASSESSMENT

Healthy Earth Environmental Consultants CC (HEEC) hereby gives notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to the

Assessments (EIAs) for the establishment and mining of dimension stones on the above mining claims at Karibib, Erongo Region.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY ON PORTION 8 OF FARM 67, KAPPS FARM, WINDHOEK, KHOMAS REGION.

BACKGROUND INFORMATION DOCUMENT (BID)

PURPOSE OF THE DOCUMENT

The purpose of this BID is to brief Interested and affected parties (I&APs) about the EIA that is being conducted for the proposed temporary fuel consumer installation facility. In addition to supporting information about the proposed project and the EIAs this BID also provides I & APs with the opportunity to

- Register as stakeholders in the public participation process and
- Comment on and make contributions to the proposed project

The EIA will identify and evaluate potential impacts, recommend measures to avoid or reduce negative impacts and to enhance positive impacts. The EIA decision making authority is the Ministry of Environment and Tourism.

When you register you will be included on the stakeholder database and receive further documents for comments when they are available. Complete and submit the enclosed comment sheet, write a letter, call or email the Public Participation Office.

Public Participation Office

Nam Geo-Enviro Solution
P.O Box 3343
Windhoek
Tel/Fax:+264 61 402246
Email: ppp@geoenvirosol.co.za

BACKGROUND

Eco-fuel Investment cc proposes to operate a temporary fuel consumer installation facility on Portion 8 of Farm 67, Kapps Farm, Windhoek, Khomas Region. The site will constitute of Three self bunded above ground storage tanks, each with the capacity of 23000 L.

The installation facility will serve to supply Diesel fuel to the road construction project of Windhoek-Hosea Kutako Airport road.

Suitable dispensing pumps and fuel network will be set up according to the Ministry of Mines and Energy specified standards for fuel storage facilities.

The proponent is conducting an EIA for the above mentioned project in a bid to abide with Namibian laws which promote environmental sustainability such as the Environmental Management Act (2007).

MOTIVATION FOR PROJECT

The motivation for Namibia to support the project is economic and strategic in nature. The project has the potential to benefit the country, society and surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of employees through the creation of new jobs at the fuel consumer installation facility.

THE OBJECTIVES OF THE EIA INCLUDE:

- To determine the potential environmental impacts derived from the operation and decommissioning phase of the project.
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation and implementation of the EMP.
- To comply with Namibia's relevant laws, policies and regulations.
- To propose alternative measures where it is noticed that adverse effects may occur.
- To set up an EMP that will govern all activities of the project for the better protection of the environment.

The development will also pave way for community development

The project will go under three phases namely: setting up and site establishment, operation and decommissioning phase. During setting up and site establishment, there will be a minor construction of a concreate containment slab where the tanks are going to be placed and the dispensing area. Operation phase will involve distribution of diesel by the fuel road tanker trucks to the site, off-loading of fuel into the tanks and dispensing it into the construction vehicles. During decommissioning phase, the site will be closed down and rehabilitated.

Martha Dumeni

From: Irene Ihms <irene@namibia4x4rentals.com>
Sent: 28 January 2020 09:44
To: 'Martha Dumeni'
Subject: RE: Public participation comments

I can not comment, as this is not my property. We are also moving. Please speak to Lin, I believe he is also the owner of the property that you are speaking off.

So of course he would not mind. All your paperwork was send to him

Irene Ihms
Managing Director

Africa 4x4 Rentals (Pty) Ltd

PO Box 5426, Ausspannplatz
Portion 6, Bellerode Kappsfarm, Windhoek, Namibia
Mobile: +264 81 255 0451
Tel: +264 61 244 266
www.namibia4x4rentals.com

From: Martha Dumeni [mailto:martha@geoenvirosol.co.za]
Sent: Tuesday, January 28, 2020 9:37
To: irene@namibia4x4rentals.com
Subject: Public participation comments

Good morning,

Kindly please forward your comments, at least today.

Thank you.

Regards

Martha Dumeni

Appendix C

Certificate and land ownership letter

MINISTRY OF MINES AND ENERGY

PETROLEUM PRODUCTS AND ENERGY ACT, 1990
PETROLEUM PRODUCTS REGULATIONS (2000)

WHOLESALE LICENCE

[Regulation 12(4)]

WHOLESALE LICENCE		Licence No. W/193/2017
Name of licence-holder	**Eco Fuel Investment CC**	
Address of licence-holder	**Physical Address**	**Postal address**
	141, Werner List Street Windhoek Namibia	P.O. Box 98398 Pelican Square Windhoek Namibia
Location of storage facilities (if necessary attach separate page)	Will utilize NAMCOR's storage facilities	
Conditions applicable to licence *See next page for general and special conditions applicable to licence.*		
Date of issue of licence	*25 October 2017*	

Issued by the Minister of Mines and Energy in terms of regulation 12(4), on
25 October 2017 **at** **Windhoek**

Official Stamp (for office use)

.....

Minister: Mines and Energy

ANTHONY ABRAHAMS BROKERS

17 January 2020

To whom it may concern

Re: Bulk Fuel Supply and Delivery to Avic-Intl Project Engineering Company/ Road Construction on B6 Highway

I refer to the above and herewith wish to advice that I act as an Agent in my capacity and confirm that Avic- Intl Project Engineering entered into an agreement with Eco Fuel Investments CC to supply 220 000 liters of diesel (HFO) per month for a duration of 42 months, as from 01 February 2020.

The above supply needs to cater for the construction of TR9/1 from Windhoek to Hosea Kutako International Airport to Dual-Carriage Freeway Standards 19.5KM.

The signature on the formal agreement was delayed as a result from the Chinese annual New Year as most of the executives are in China for the next 4 weeks.

We further confirm that the environment assessment has been executed by Nam Geo-Enviro Solutions where after a formal advertisement has been placed in the local newspapers as to abide with regulation.

The Avic-Intl Project Engineering team is also in the process to do a site establishment on portion 8 of Farm 67 Kapps Farm, where they are putting the foundation of a platform where Eco Fuel Investments cc can install 3x 23 000L diesel tanks for their operations.

Please do not hesitate to call myself or my office for any enquiries.

Yours truly

Anthony Abrahams

RAA PROPERTIES

59 Jan Jonker Road, Klein Windhoek, Namibia, PO Box 98498, Windhoek Tel: +264 430 085 Fax: +264 401 516 Email:

LEASE

MEMORANDUM OF AGREEMENT

THIS MEMORANDUM OF AGREEMENT made and entered into by and between

Name: **Greenland Property Development CC**

(Herein represented by Mr. Jindan Lin Id No. 680810 1008 4)

Company No.: **CC/2015/01577**

Hereinafter called the LESSOR whose address is

PO Box **998920, Windhoek, Namibia**

Cell: **+264 81 122 2888**

And

Name: **Avic-Intl Project Engineering Company**

(Herein represented by DING WEI QIANG)

Company No: F/91110302575224687XY

Hereinafter called the LESSEE whose address is

PO Box 864, Windhoek, Namibia

Tel: **+264 81 129 7801**

1. The LESSOR lets to the LESSEE who hires the following property:

Portion 8 of Farm Bellerode 67, Kappsfarm , a portion of 6 Hectares with buildings on from the total size of (12,188 Ha)

Hereinafter called "the property" and including therein

The lease is for a fixed period of **42 Months**, reckoned from **18 October 2019 until 31 March 2023.**

Anthony
(Managing Member)

2. The rent for the first year is **N$ 60 000.00 per month Plus VAT ,** payable monthly in advance on the first lease together with the Stamp Duty thereon into, with an annual escalation of 8% .

Standard Bank
Account Name: **Greenland Property Dev CC**
Account No: **041426681**
Branch: **Executive Suite**
Branch code: **082372**

3. A refundable deposit of **N$ 200,000.00** is payable by the LESSEE on signature of this contract. After renovations, the deposit will be refunded if the LESSEE leaves the property in its original condition.

4. THE LESSEE SHALL:

(a) Pay all charges for electricity supplied to the property.
(b) Not cede or assign the lease.
(c) Not sub-let the whole or any part of the property to anyone without the written consent of the LESSOR, which consent shall not be unreasonable withheld.
(d) Use the leased property for office/business purposes.
(e) Not make structural or other alterations, additions to or improvements in the property without the written consent of the LESSOR.
(f) Permit the LESSOR or his duly authorised agent to inspect the property at all reasonable times.
(g) Not do or allow to be done either by commission or omission anything, which would increase the premiums of or vitiate the Policies of Insurance on the property.
(h) Be responsible for the maintenance, repair, upkeep and/or decoration, as the case may be, of the interior property including ceilings, all wall and floor coverings, all doors and windows, cooling, lighting, plumbing and air-conditioning installations (and any part of any such doors, windows and installations) all other fixtures, fittings, furnishings and any machinery and equipment in or on the property.
(i) Not cause any noise or nuisance, which would in any way disturb the quiet and peaceful occupation of his neighbours.
(j) Water consumption use exclusive.

5. THE LESSOR SHALL:

(a) Be responsible for the maintenance, and upkeep of the exterior of the property including the roof and the repair of the outdoor unit of the air-conditioner.
(b) Not be responsible for any damage caused to the LESSEE by leakage, rain, hail, fire or interruption of water or electricity supplies or any cause whatever.
(c) Be responsible for payment of Taxes and/or Service Charges presently assessed on the property.

(d) Be entitled at any time during the currency of the lease to require the LESSEE to reinstate the property at the LESSEE'S expense to the same condition as it was at date hereof.

(e) Forthwith repair any structural defects, which appear in the property.

6. In the event of the total or partial destruction of the property or any portion by any cause the LESSOR shall be entitled to terminate the Lease failing which it shall continue, but the LESSEE shall during the period during which the property or part thereof is unfit for occupation be entitled to a proportionate abatement of rent. The LESSEE shall have no claim for compensation against the LESSOR, but should the destruction be due to the default or negligence of the LESSEE, the LESSOR shall under these circumstances be entitled to claim payment of such damages as the LESSOR may have suffered.

7. Should the LESSEE fail to pay the rent or any portion thereof on its due date, or breach any other condition of this lease, and remain in default for seven days after receipts of notice to the LESSEE requiring payment of the rent or the remedy of the breach, as the case may be, or if the LESSEE shall become insolvent, the LESSOR shall have the right forthwith to cancel this lease and to re-enter upon and take possession of the leased property, without prejudice to any claim which the LESSOR may have against the LESSEE for the rent already due or damages for breach of contract or otherwise. If the LESSOR cancels this Lease and the LESSEE disputes the right to cancel and remains in occupation of the property the LESSEE shall pending settlement or resolution of any dispute either by negotiation or litigation continue to pay an amount equivalent to the monthly rental provided in this lease monthly in advance on the first day of each month and the LESSOR shall be entitled to accept and recover such payment the acceptance of which shall be without prejudice to and shall not in any way affect the LESSOR'S claim to cancellation then in dispute. If the dispute is resolved in favour of the LESSOR the payments made and received in terms of this clause shall be deemed to be amounts paid by the LESSEE on account of damages suffered by the LESSOR by reason of the cancellation of this lease and/or the unlawful holding over the LESSEE.

8. Any relaxation, indulgence or waiver which the LESSOR or his Agents may grant to the LESSEE or any condonation by the LESSOR of any breach of the terms of this lease shall not become binding on the LESSOR who shall at all times be entitled to claim due and prompt performance by the LESSEE of all obligations.

9. Any notice which the LESSOR requires to give to the LESSEE shall be deemed to have been validly given in sent by pre-paid registered letter to the LESSEE at the property or left by the LESSOR or his Agent at such address, which notice shall be deemed to have been received 3 days after posting by registered post, or on the day the notice was delivered by hand in terms of these presents.

10. The LESSEE chooses the property, as his domicilium citandi ex executandi and consents to the jurisdiction of the Magistrate's Court in respect of any legal proceedings arising out of this Lease.

11. No variation of the terms of this lease shall be of any effect unless reduced to writing and signed by the LESSOR and LESSEE or their duly appointed Agent or Agents.

12. The LESSEE shall pay the costs of this lease together with the Stamp Duty thereon.

13. The parties also agreed that this lease agreement is subject to 1st option to the LESSEE if the LESSOR considers selling to a price determined at that stage.

14. The Lessor further agree to use the deposit paid by the Lessee for renovating / cleaning the property in a habitable state for office and business after termination of contract and inspection thereof.

15. The Lessor also agree that the Lease period signed for is subjected to the first right to extend the lease period and option to Purchase Portion 6 of Farm Bellerode and the payment conditions therein. The Lessor than agree on a 3 month notice on termination by the Lessee.

16. The parties also agree that the current tenant move to the back two houses with a separate entrance.

17. The parties agree that the LESSEE can remove all movable fixtures upon contract expiry.

18. The parties agree that the LESSOR guarantees the 42 month Rental period as per conditions set out.

IN WITNESS WHEREOF the parties have hereunto set their hands in the presence of the undersigned witnesses:

By the LESSOR at Windhoek on the 23 Day

of Oct 2019

AS WITNESSES:

1. _____

2. _____

Mr. Yindan Lin

(for and on behalf of Greenland Property Development CC)

By the LESSEE at WINDHOEK on the 24TH Day

of OCTOBER 2019

AS WITNESSES:

1. _____

2. _____

(for and on behalf of Avic-Intl Project Engineering Company)

Appendix D

Environmental Management Plan(EMP)

ENVIRONMENTAL MANAGEMENT PLAN

ENVIRONMENTAL MANAGEMENT PLAN

FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY ON PORTION 8 OF FARM 67, KAPPS FARM, WINDHOEK, KHOMAS REGION

February 2020

Nam Geo-Enviro Solutions

ENVIRONMENTAL AUTHORIZATION INFORMATION

PROJECT:	**FOR THE OPERATION OF A TEMPORARY FUEL CONSUMER INSTALLATION FACILITY ON PORTION 8 OF FARM 67, KAPPS FARM, WINDHOEK, KHOMAS REGION**	
COMPILED FOR:	**Eco- Fuel Investment CC** P.O. Box 98398 Windhoek Tel: +264 815806343/ 0813361588 Fax: +264 (0) 61 401 718 Email: ecofuelinvestment@gmail.com	
COMPILED BY:	**Nam Geo-Enviro Solution** P.O. Box 3343 Windhoek Tel/fax: +264(61) 402246 Email:info@geoenvirosol.co.za	

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

ACRONYM	MEANING
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
EMP	Environmental Management Plan
ISO	International Standard Organization
SANS	Africa National Standard

CHAPTER ONE: BACKGROUND

Eco-fuel Investment cc intends to operate a temporary fuel consumer installation facility on portion 8 of farm 67, Kapps Farm, Windhoek, Khomas region. The purpose of this consumer fuel installation is to supply Diesel fuel to the road construction project of Windhoek-Hosea Kutako Airport road.

The temporary fuel installation facility will constitute of three (3) self-bunded fuel storage tanks, each with the capacity of 23000 L.

This document will be used as a basis for managing, mitigating and monitoring the environmental impacts associated with the operation and decommissioning of the facility.

According to the Environmental Management Act (2007) and its Regulations (2012) this development requires an Environmental Clearance Certificates as specified in the listed activities below in the table.

Table 1: Listed Activities as per EMA regulations (2012)

ACTIVITY	RELEVANT SECTIONS
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.

In respect of the operations of the fuel consumer installation facility, Nam Geo-Enviro Solution cc has been consulted by Eco-Fuel Investment CC to carry out an Environmental Impact Assessment (EIA) and develop an Environmental Management Plan (EMP) for the operations of a fuel consumer installation facility on portion 8 of Farm 67, Kapps Farm, Windhoek, Khomas region and to apply for an Environmental Clearance Certificate with the Directorate of Environmental Affairs under the Ministry of Environment and Tourism-Namibia.

1.1 PROJECT ACTIVITIES

The project activities will involve:

- Setting up and site establishment
- Off-loading of fuel into tank by road tanker truck
- Dispensing of fuel into the construction vehicles trucks

1.2 BASIC ASSESEMENT OF THE SITE

The proposed site is located of a pre-existing farm, already cleared, compacted and devoid of vegetation. The total footprint area size of approximately 2500m^2.

Fuel on site will be stored in two mobile self bunded (double wall) fuel tanks with a capacity of 63170 litres each.

The two mobile tank are made according to UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and ULC-S601, Shop Fabricated Steel (www.petroind.com). see figure below of portable units.

Figure 1: The site view of the proposed project.

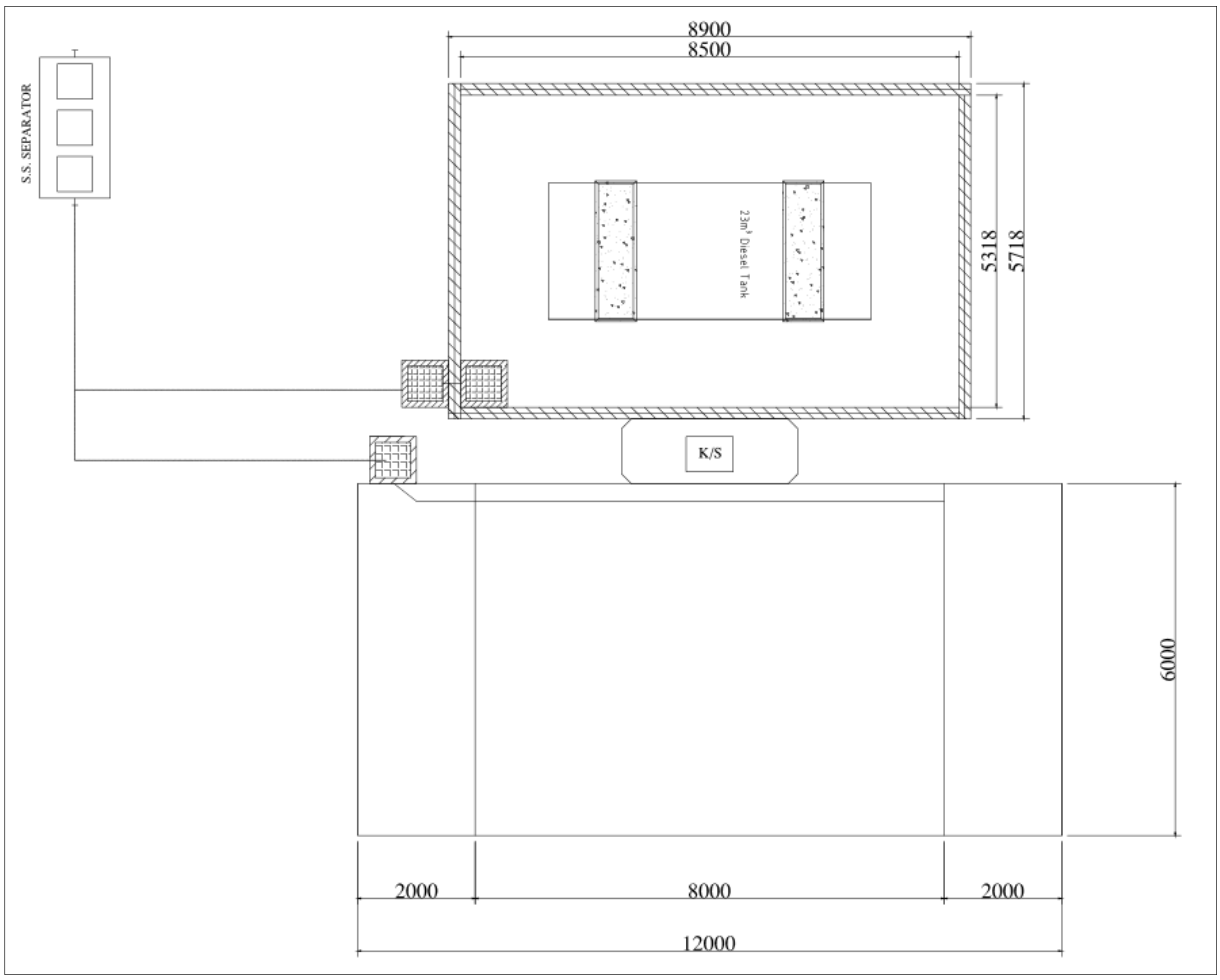


Figure 2: Design of installation set-up, with concrete floor at dispensing areas

CHAPTER TWO: EMP AIMS AND OBJECTIVES

The environmental management plan (EMP) aims to take a pro-active route by addressing possible problems before they occur. The objectives of this EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the project
- Provide a framework for implementing the management actions for operational and possible decommissioning phases of the activities associated with the development of the proposed fuel consumer installation and storage facility
- To ensure that the project will be developed and operated according to the stipulated requirements of Namibia Environmental Management Act (No 7 of 2007)

- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its operational phase and possibly the decommissioning phase.

The EMP is aimed to ensure that all contractors and sub-contractors involved in any of the phases should be made aware of the contents of the EMP so that they can plan their activities accordingly in an environmental sound manner.

CHAPTER THREE: POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

Legislations are used as guiding tools during the development of an EMP. The proponent will be required to abide to different policies, laws, regulation relating to the project. The Environmental Management Act No. 7 of 2007 is the primary custodian of the environment which aims to;

- Promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment
- To establish the Sustainable Development Advisory Council
- To provide for the appointment of the Environmental Commissioner and environmental officers
- To provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters)

However, the focal point of this section is not only on the EMA, but also at other relevant legislatives. **Table 2** below indicate the relevant legislatives related to the project.

Table 2: Relevant legislation and policies for the fuel consumer installation and storage facility

Aspect	Legislation	Relevant Provisions	Relevance to the Project
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	• "The State shall actively promote and maintain the welfare of the people by adopting policies that are aimed at maintaining ecosystems, essential ecological processes and the biological diversity of Namibia. It further promotes the sustainable utilisation of living natural resources basis for the benefit of all Namibians, both present and future." (Article 95(l)).	• Through implementation of the environmental management plan, the proposed operations will ensure conformity to the constitution in terms of environmental management and sustainability.
Environmental	Environmental Management Act 7 of 2007	• Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). • According to Section 5(4) a person may not discard waste as defined in Section 5(1)(b) in any way other than at a disposal site declared by the Minister of Environment and Tourism or in a manner prescribed by the Minister.	• This Act and its regulations should inform and guide this EIA process. • The proponent is trying to get an ECC and implementing the Environmental Management Plan.
	Pollution and Waste Management Bill	• This bill defines pollution and the different types of pollution. It also points out how the Government intends to regulate the different types of pollution to	• The project should be conducted in a manner which is advised by the bill so as to minimize the

		maintain a clean and safe environment. • The bill also describes how waste should be managed to reduce environmental pollution. Failure to comply with the requirements is considered an offence and punishable.	generation of waste at the site. • A waste management strategy that follows recycling, reuse and reducing will be commissioned throughout the operations.
	Soil Conservation Act 76 of 1969	• This acts makes provision for combating and for the prevention of soil erosion, it promotes the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic of Namibia.	• Fuel storage facilities are mainly associated with spillages which can end up contaminating soil. This document aims at guiding the proponent during operation and perhaps decommissioning in order to prevent soil erosion and contamination during operation.
	Hazardous Substance Ordinance 14 of 1974	• Provisions for hazardous waste are amended in this act as it provides "for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the prohibition and control of the importation, sale, use, operation,	• The proponent shall separate waste at site. • The proponent shall ensure that all possible "hazardous" categorised substances and waste shall be handled by a certified hazardous waste handler.

		application, modification, disposal or dumping of such substance; and to provide for matters connected therewith"	
	Atmospheric Pollution Prevention Ordinance 11 of 1976;	• The Act requires that there is need to register a controlled area with certificate to operate air polluting activities. The retail license covers all elements and requirements of this Act.	• The proponent shall apply for a consumer installation Licence from Ministry of Mines and Energy.
Water	Water Act 54 of 1956	• The Water Resources Management Act 24 of 2004 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: • A permit application in terms of Sections 21(1) and 21(2) of the Water Act is required for the disposal of industrial or domestic wastewater and effluent. • Prohibits the pollution of underground and surface water bodies (S23(1). • Liability of clean-up costs after closure/ abandonment of an activity (S23(2)). • Protection from surface and underground water pollution	• Fuel consumer facilities are associated with spillages which can contaminate ground water or surface water thus this act will be of significance especially during operation phase.
Health and Safety	Labour Act (No 11 of 2007) in conjunction	• 135 (f): "the steps to be taken by the owners of premises used or intended for use as factories or	• The proponent will be obliged to create a safe working environment

	with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.	places where machinery is used, or by occupiers of such premises or by users of machinery about the structure of such buildings of otherwise to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;" (Ministry of Labour and Social Welfare). • This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.	for the employees. This will include applying appropriate hazard management plans and enforcing Occupational Health and Safety (OHS) management systems to contractors.
	Public Health and Environmental Act, 2015	• A person who intends to conduct on a premises activity which generate special, industrial, hazardous or infectious waste must be registered for that purpose with the local authority concerned • (3) A person or local authority engaged in activities contemplated in subsection (1) or (2) must ensure that the waste generated on the premises concerned is kept and stored • under conditions that causes no harm to human health or damage to the environment; and ○ In accordance with applicable laws.	• The consumer installation facility is located on pre-existing farm hence no certificate of fitness is required.

		• (4) All waste contemplated in this section must be stored in approved containers and for the maximum period determined by the head of health services or the chief health officer.	
Oil and Gas	Petroleum Products & Energy Act (1990)	• The Act requires that for the operation of commercial fuel site a consumer license has to be obtained from the relevant ministry • Petroleum Products Regulations prohibit a person to have in possession more than 200 litres of petrol or diesel in an urban area or more than 600 litres of petrol or diesel in a rural area. • Adding on the Act requires incident reporting of major spillages occurring on site for pollution control.	• The proponent shall obtain a Consumer installation Licence from the Ministry of Mines and Energy

The following SANS Codes guideline standards influence the planning and management of the fuel installation site:

SANS Code	Description
SANS 10228	The identification and classification of dangerous goods for transport
SANS 10089-1.	Storage and distribution of petroleum products in above ground bulk installations
SANS 10131	Above-ground storage tanks for petroleum products
SANS 14001	Environmental management systems - Requirements with guidance for use
SANS 1518	Transport of dangerous goods, design requirements for road vehicles and portable tanks
SANS 10234	Globally harmonized system of classification and labelling of chemicals (GHS)
SANS 10263	The warehousing of dangerous goods – Part 0: General Requirements

Eco-fuel Investment CC is recommended to use the standard in its operations and installations. The following are some of the major impacts associated with the project and mitigation measures objected by the standards.

Spillages

Spillage control can be provided by remote impounding, impounding around tanks, bunding or by a combination of all three.

In both types of impounding, the impoundment area shall be protected by adequately designed systems to prevent the contamination of ground water if such a risk exists. Additionally, separator facilities shall be provided to contain any possible spillage and to prevent the spillage from leaking into any sewage drains. See **figure 2** for design of installation set-up.

The protection facilities against fire hazards shall be achieved by good engineering design and construction standards. Safe operational procedures and efficient plant and equipment maintenance shall be such that it is highly unlikely that fire will break out.

Ignition sources

Any device or action that could cause a flame or spark shall not be allowed in restricted areas, unless authorized by an appropriate permit, the stipulations of which shall be strictly adhered to. Sources of ignition include but are not limited to the following: cutting and welding, electrical sparks, frictional heat or sparks, furnaces, heating equipment, hot surfaces, lightning, open flames, ovens, radiant heat, smoking, static electricity, stray currents and spontaneous ignition. Welding, cutting and similar spark-producing operations shall not be permitted within the Fuel storage facility premises without an authorized hot-work permit.

Access control

All points of entry to the site shall be planned that persons or vehicles that enter or leave the fuel consumer facility site can be observed. Unauthorized persons shall not be permitted access to site. All persons or vehicles that enter or leave the fuel storage facility have to pass through the security area.

Housekeeping and vegetation

The site shall be kept free from obstructions and combustible rubbish. Vegetation that is liable to dry out and become a fire hazard shall be kept short and cuttings shall be removed.

Absorbents

Absorbents are basically recommended for containing spillages. Sufficient supplies of absorbents shall be available at all times.

Safety training

Safety training shall include operational procedures, emergency procedures and safe working practices, information on specific hazards, first aid and fire-fighting, and the proper use of

protective equipment such as breathing apparatus. Periodic refresher training shall be maintained.

Emergency plans (on-site and off-site)

Emergency plans shall be prepared to cover foreseeable types of emergencies, which shall cover situations that range from a small incident to one of disaster proportions where considerable assistance from outside organizations is needed. Any emergency plan shall comply with the regulations for major hazard installations as laid down in the OHS Act, 1993.

CHAPTER FOUR: ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK

4.1 ENVIRONMENTAL MANAGEMENT PLAN AND MONITORING

There is a strong need to clearly outline the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. There is also a need for the proponent to appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer needs to have qualifications and knowledge in environmental management/sciences, and understanding of EMP administration.

Under the management actions, each action is allocated to a responsible entity to ensure that the specific action is managed and documented properly. All key role players such as contractors who will be involved must be informed about the contents of this EMP and activities to be undertaken to mitigate the potential impacts identified.

4.2 ROLES AND RESPONSIBILITIES

4.2.1 PROPONENT (ECO-FUEL INVESTMENT CC)

Overall responsible for all financial and manpower obligations to implement this EMP. The proponent is responsible for the appointment of other personnel responsible for the implementation and operation of this EMP.

4.2.2 COMPETENT AND MONITORING AUTHORITY (THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS: MINISTRY OF ENVIRONMENT AND TOURISM)

Responsible for enforcing compliance with the EMA Act, its regulations and full implementation of this EMP. The competent authority also reviews biannual reports and grant ECC renewal after 3 years following an environmental Audit.

4.2.3 SITE MANAGER (SM)

Required in carrying out the overall responsibility for the implementation of the EMP to ensure that all required resources and mechanisms for environmental management are in place.

4.2.4 HEALTH SAFETY AND ENVIRONMENTAL SITE OFFICER (HSEO)

Required to take responsibility of all environmental issues (waste management) and safety of employees. The HSEO should record and report all incidents on site.

4.2.5 ENVIRONMENTAL CONTROL OFFICER (ECO)

Required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the site, compilation of all reports to be submitted to MET: DEA for renewal of the environmental clearance certificate.

4.3 MANAGEMENT OF ENVIRONMENTAL ASPECTS AND IMPACTS

Fuel storage facilities are associated with spillages which have a consequence of contaminating water sources, underground water and soil. Waste management is also among the issues which need more attention. The following guidelines give clarity on some of the issues.

4.3.1 HYDROCARBONS MANAGEMENT

If any spillage occurs, contaminated soil shall be collected in a holding tray or drum and disposed at a licensed hazardous waste site. Any spillage of more than 200 litres must be reported to the Ministry of Mines and Energy as per the Petroleum Products Act.

Engen Namibia (Pty) Ltd and Eco-Fuel Investment CC shall take all reasonable measures to prevent surface or groundwater pollution from the release of oils and fuels. In addition,

sufficient space should be left in fuel tanks to allow fuel expansion and to prevent leakage of fuel from the tank.

4.3.2 SITE MANAGEMENT

Staff at the site and contractors should be educated and informed of their environmental obligations. Meaningful penalties for damages should be stipulated, and perpetrators should be held responsible for all transgressions. Areas outside this designated working zone shall be considered “no go” areas. Engen health and safety policies should be implemented at all time since the storage facility will get fuel from Engen.

4.3.3 STAFF MANAGEMENT

The manager must ensure that all employees have suitable personal protective equipment and are properly trained in firefighting and first aid. Eco-fuel Investment CC will take overall responsibility on training the responsible personnel on environmental management.

4.3.4 WASTE MANAGEMENT

All waste generated on site ought to be disposed off at designated licensed disposal site. adequate bins or containers should be provided on site, store any solid or liquid waste produced. Liquid wastes from the oil/water separators and other wastes should be disposed off by licensed contractor. The bins and containers should be weatherproof and scavenger-proof.

4.3.5 FIRE AND SAFETY MANAGEMENT

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and later safety risks may arise.

No fire or any source of fire ignition is to be permitted near the fuel tanks on site during any of the two phases (operational and decommissioning). Eco-fuel Investment CC shall take all reasonable measures and active steps to avoid increasing the risk of fire through activities on site and prevent the accidental occurrence or spread of fire; and shall ensure that there is sufficient fire-fighting equipment on site at all times. This equipment shall include and may not be limited to fire extinguishers.

CHAPTER FIVE: IMPACT EVALUATION AND MITIGATIONS

The operational phase is the most critical component of Environmental Management because it is normally associated with several impacts. This phase comprises of the actual operation of the fuel storage tank. There will be several impacts that will occur daily or other sequential routine. The operational phase forms the basis of an Environmental Management Plan and it will be followed by the decommissioning phase. The major impacts identified by this study for the operational and probably decommissioning phase are detailed below:

5.1 DUST

Impacts	Description	Mitigation measures	Project phase	Responsibility
Dust	• The site is already cleared and compacted, no major construction will be required hence less dust will be produced during the setting up and site establishment. • Very less dust might be generated during the demolition of the concrete slab(s). • Overall, the impact of the dust will be for a short period and localised. • The overall environmental significance is low.	• Employ dust suppression measures during decommissioning • Ensure all employees have appropriate PPE in relation to dust and vapors.	Operational and Decommissioning	• Site manager • Contractors • Appointed HSEO

5.2 IMPACT ON SOILS

Impacts	Description	Mitigation measures	Project phase	Responsibility
Impact on soil	• The site is compacted • Soil contamination due to improper handling of	• Proper care should be taken so that there is no spill that would cause soil contamination	Operational and decommissioning	• Eco-fuel Investment CC

	hazardous waste may occur. • The impact on soil is expected to be localized and of low environmental significance • During the decommissioning phase, proper care must be taken when removing and disposing the fuel tanks as this can end up contaminating the soil.	• Spill kits and absorbents should be readily available on site • Hazardous waste properly handled and sent for disposal to appropriate disposal areas • The management to maintain records of contaminated waste on a regular basis • Re surface open areas during the decommissioning stage and introduce appropriate vegetation • Proper care should be taken so that there is no spill that would cause soil contamination		• Contractors • Appointed HSEO

5.3 SURFACE/GROUNDWATER CONTAMINATION

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Surface/ground water contamination	• Spillages might be generated when dispensing fuel into	• Risks of such an impact can be lowered through proper training of staff and installation of suitable	Operation	• Site manager • Contractors • Appointed HSEO

	trucks and when fuel tanker trucks are offloading fuel. • Groundwater quality can also be affected through leaching/leakage of the above ground tank.	containment structures. • The tanks will be above ground and is surrounded bund wall. • There should be a concrete slab at the filler and loading points leading to an oil and water separator. • The site should have an oil interceptor system on site linked to an oil and water separator pit • Proper toilet facilities • Empty containers of chemicals should not be dumped anywhere, all the garbage should be collected by the licensed garbage collectors • Proper monitoring of the product levels in the tanks must take place to eliminate overfilling • Equipment and materials to deal with spill clean-up must be readily available on site and staff must be trained in the usage of these		

		products • Spillage control procedures must be in place according to SANS 10089-1:2008 and SANS 100131-2 standards, or better • Proper training and induction of operators must be conducted • Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990). • An emergency response plan to give guidelines on spillages or leakages		
Surface/ground water contamination	• During tank removal, leakages/spillages might happen which can consequently affect ground water quality.	• During decommissioning process, there is need to ensure that there is a qualified hazardous waste management contractor. • Pollution studies have to be undertaken in case of possible	Decommissioning	• Site manager • Contractors • Appointed HSEO

		pollution or groundwater contamination		

5.4 AIR QUALITY

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Air quality	• Hydrocarbon vapour can be released into the atmosphere when dispensing fuel for trucks and when tanker trucks are offloading fuel. • Hydrocarbons are a class of compounds primarily composed of carbon and hydrogen and there are major components of oil, natural gas and pesticides. These substances contribute to the greenhouse effect and global warming, depletion of the ozone, increase occurrences of cancer, respiratory disorders and reduce the photosynthetic ability of plants • Noxious smell will be	• Trucks idling time shall be minimized by putting up educative signs. • All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner. • Regular check tests and audits. • Employees working with fuel must be provided with proper Personal Protective Equipment (PPE).	Operation	• Eco-fuel Investment CC • Site manager • Appointed HSEO

	experienced during the offloading and dispensing of fuel only causing the effect to be temporal			
Air Quality	• Hydrocarbons can be realized during removal of tanks which can consequently affect the air quality.	Ensure all employees have appropriate PPE in relation to dust and vapors.	Decommissioning	• Eco-fuel Investment CC • Site manager • Appointed HSEO

5.5 FIRE AND EXPLOSION HAZARD

Impacts	**Description**	**Mitigation measures**	**Project Phase**	**Responsibility**
Fire and Explosion Hazard	• Fire and Explosion can happen during the operation phase • Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions measures are not taken to prevent their	• Sufficient water should always be available for firefighting purposes • Any device or action that could cause ignition or spark shall not be permitted on near the fuel tank • Warning signs prohibiting possible ignition agents should be clearly displayed on site	Operation	• Eco-fuel Investment CC • Site manager • HSEO

	ignition, fire and subsequent safety risks may arise.	• Good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the fuel tank • Firefighting trainings • The Emergency Response Plan should be implemented and should address the potential spills • Regular inspections to inspect and test firefighting equipment and pollution control measures at the storage facility • Fuel tanks should be established away from potential neighbouring fire points • All fire precautions and fire must be in accordance with SANS 10089-1:2008, or better • Experience has shown that the best chance to rapidly put out a		

		major fire is in the first 5 minutes. It is important to recognize that a responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to prevent, curb and avoid conditions that may result in fires • There must be an emergency evacuation point		
Fire and Explosion Hazard	• Fire risk and explosion during tank removal is a huge risk because of the use of machinery on a highly volatile environment. • Existence of fuel fumes from the tank during removal also poses a risk of ignition within the surrounding areas.	• There is need to ensure that all employees to work on decommissioning are made aware of the safety concerns of their task used does not result in ignition • Clear perimeter or boundary within which no other person can pass through, except for the decommission team	Decommissioning	• Eco-fuel Investment CC • Site manager • HSEO

		• Fire control and suppression equipment in place during the entire process • An assembly area should me established on site and training of stuff on firefighting and first aid administration		

5.6 HYDROCARBON WASTE

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Hydrocarbon waste	• Liquid waste in the form of diesel and oil is normally the potential waste generated at the site. • Fuel spillages during off-loading into the tank are a potential risk. Domestic waste such as papers are generated from the offices on site. • Waste in the form of contaminated soil due to spillage might occur, but should be prevented through the use of containment areas as.	• Hydrocarbon waste management is vital among employees and management. • Use of absorbents are essentially recommended for containing spillages. • Adequate supplies of absorbents should be readily available at all times • Waste separation should be implemented to avoid mixing of contaminated waste and general waste (see **figure 2** for design of installation set-up.) • Proper monitoring of the product levels in the tank must take place to eliminate overfilling • Appointment of a certified waste handling contractor to handle all hydrocarbon waste • Waste minimization policy.	Operation,	• Eco-fuel Investment CC • Engen Namibia • Site manager • Appointed HSEO

		bioremediation of contaminated soil • Frequently cleaning of oil/ water separator • Spill containment around the pump (see **figure 2** for design of installation set-up.) • -Spillage bin and clean up kits • Construct oil/water separator • This impact can be reduced through proper training of the operators • All spills must be cleaned up immediately and if spill is more than 200 L, it must be reported to the Ministry of Mines and Energy • The presence of an emergency response plan and suitable equipment is advised, so as to react to any spillage or leakages properly and efficiently		
Generation of hydrocarbon and other	• Removal/replacement of the tank might cause contamination of soil.	• Appointment of a certified waste handling contractor to handle all hydrocarbon waste such as tanks for		• Eco-fuel Investment CC • Site manager

waste	• Decommissioning and repairs also result in waste such as rubbles, tanks and other installation components.	safe disposal. During repairs and or decommissioning an approved and certified waste management contractor should be present to advise and prevent improper handling and disposal of contaminated waste • Ensure that no concrete rubbles and other materials generated on site are placed, dumped or deposited where it does not contaminate the surroundings		• Appointed HSEO

5.7 GENERAL WASTE

Impacts	Description	Mitigation measures	Project Phase	Responsibility
General waste	Litter in the form of papers and plastics is likely to be produced. In general, the impact of waste is expected to be localized and it will be of low significance if mitigation measures are implemented.	• Strictly, no burning of waste on the site or at the disposal site, as it possess environmental and public health impacts; • Place bins around the site • Separation of waste should clearly have indicated. • Waste should be dumped at an authorized designated area Regular inspection of the site	Operation and decommissioning	• Eco-fuel Investment CC

5.8 TRAFFIC IMPACT

Impacts	Description	Mitigation measures	Project phase	Responsibility
Traffic impact	• B6 main road will be used as the access point to the site. • The cases of traffic congestion will be likely happening and accident may occur. • If mitigation measures are put into action, the probability of traffic congestion and accidents happening will be unlikely and the significance will be low	• Proper signage to warn vehicles about the construction on the road due to heavy vehicle movement. • Drivers should adhere to all the traffic	Operation	• Eco-fuel Investment CC • Engen Namibia • Site manager

5.9 RISK OF OCCUPATIONAL HEALTH AND SAFETY

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Risk of OHS	• OHS hazards which might be encountered include dermatitis which is caused by physical contact with fuel. • Prolonged exposures might result in inhalation of fuel vapours hence possibilities of causing cancer. • Fire hazards can also be a potential risk • The bathrooms are also a source of concern, cleanliness must be maintained so as to avoid health related hazards	• Frequent distribution of protective equipment to employees and safety shoes where applicable). • Conduct Hazard identification and risk assessments • All Health and Safety standards specified in the Labour Act should be complied with. • Train workers how to use adequately the equipment • Trainings on occupational health and safety • Safety talks to be done every day before commencement of work • Implementation of Behaviour Based Safety System • Provisions of First Aid Box and trained person in first aid.	Operation	• Eco-fuel Investment CC • Appointed HSEO

		• Any leakage/spillage shall be immediately attended and provision of urgent cleaning • Work area will be monitored to maintain work environment free from any hazards • Provision of adequate and maintenance of Fire Extinguishers at site • Provisions of immediate accident/incident reporting and investigation • Safety Posters and slogans should be exhibited at conspicuous places		
Risk of OHS	• During removal of installations on site, occupational exposures are normally related to inhalation of fuel vapours and physical contact with fuels. • The decommissioning phase	• Provision of appropriate PPE during decommissioning process • Ensure that there is a Safety representative, fireman and first aider during decommissioning phase at all times • Conducting tool box talks every	decommissioning	• Eco-fuel Investment CC • Appointed HSEO

	involves working at heights, operating heavy machinery and risk of cuts and falling objects.	morning before beginning of work. • Provision of signage and warning signs for visitors to the site during decommissioning. • Frequent cleaning of bathrooms		

5.10 CUMULATIVE

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Cumulative	• During the operational phase there might be cumulative impacts • Fuel is going to be off-loaded which can result in the release of hydrocarbon vapours which have an impact of reducing the air quality and also causing fires and explosions • Hydrocarbon vapours if	• All possible sources of ignition in the entire area should be eliminated • Sufficient water should always be available in case of fire for firefighting purposes • Vent pipes should be placed in such a manner as to prevent impact on potential receptors • Regular check tests	Operation phase	• Eco-fuel Investment CC • Contractors • Site manger • Appointed HSEO

	released in the atmosphere can also cause global warming, reduction of photosynthesis of plants and cancer. The cumulative impact will be of low significance			

5.11 ACCESSIBILITY OF FUEL FOR OPERATIONS

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Accessibility of fuel	The storage facility will reduce the distance to be travelled to the nearest filling station .	• Maintain a consistent supply of the stated products • Make provision of timely delivery of fuels to the site.	Operation	• Eco-fuel Investment CC • Appointed Sales department.

5.12 GOVERNMENT REVENUE

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Payment of taxes	The proponent will have to pay tax which will indirectly benefit the whole country.	• Continuous payment of taxes due as regulated in the Namibian laws.	Operation	• Eco-fuel Investment CC • Appointed contractors

CHAPTER SIX: DECOMMISSIONING AND SITE CLOSURE

The decommissioning of tanks should be overseen by a professional from the oil industry and the Environmental Officer. The old tanks should be disposed off at a suitable landfill site and disposal certificates provided.

Prior the decommissioning of the site or replacement of any tanks a qualified environmental consultant should be appointed to conduct a due diligence survey to ensure the environmental status of the site.

- Ensure that the site follows all relevant by-laws and policies
- A contamination assessment should be carried out to assess and determine whether any pollution occurred during operations.
- Asses the site to determine if the presence of contamination present any additional risk to human health and the environment. If any contamination occurs that it is remediated to acceptable levels
- Site rehabilitation

CHAPTER SEVEN: ENVIRONMENTAL MONITORING

An environmental monitoring plan provides a delivery mechanism to address the adverse environmental impacts of a project during its execution, to enhance project benefits, and to introduce standards of good practice to be adopted. An environmental monitoring plan is important as it provides useful information and helps to assist in detecting the development of any unwanted environmental situation, and thus, provides opportunities for adopting appropriate control measures.

Important parameters that are sensitive include groundwater, occupational health and safety, fire and explosion and generation of hydrocarbon wastes. The suggested monitoring details are outlined in the following sections.

IMPACT	RECEPTORS	TYPE OF MONITORING	FREQUENCY
Ground and surface water contamination	Underground aquifers Flood channels, Subsidiary streams, sea and dams	• Inspections on above-ground tanks for possible leakages • Testing of "grey water" from oil/water separator pit before discharge into sewer lines or flood channels	• Quarterly • Any time when high discrepancies in fuel reconciliation • Regularly as required
Fire and explosion	Environment Humans and property)	• Regular inspections should be carried out to inspect and test firefighting equipment. • Regular servicing of firefighting equipment	• Quarterly • Annually
O.H.S	Employees	• Site inspection • Conducting Hazard and Risk Assessments • Safety procedures evaluation. • Health and safety incident monitoring	• Daily
Hydrocarbon wastes	Environment.	• Inspection of pumping installations • Monitoring of the oil/water separator • Proper training of fuel attendance. • Spillages more than 200L should be reported to the	• Daily • Daily • Every time there is a new employee

		Ministry of Mines and energy • Proper spill clean-up kits on site	
Generation of waste (solid)	Land	• Site inspection on housekeeping • Regular collection of waste by the council	• Daily
Air quality (emissions)	Employees, Atmosphere	• Air quality tests	• Annually

CHAPTER EIGHT: CONCLUSIONS

There will be minimised unfavourable impacts on the environment if the Environmental Management plan is followed and implemented accordingly. Whenever impacts occurred, immediate action should be taken to minimise the increase effects related with the impacts.

To ensure the importance of this document to the specific stage of project, it needs to be reviewed throughout all phases especially when there is a change in activities in order to enhance mitigation measures.

The Environmental Management Plan should be used as a reference document during operational and decommissioning phase and auditing should take place in order to determine compliance with the EMP for the proposed site. Parties responsible for any wrong doing of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

Nam Geo-Enviro Solutions

February 2020

CHAPTER NINE: REFERENCES

Constitution of the Republic of Namibia (1990)

Environmental Management Act (2007)

Environmental Management Regulations (2012)

Government of Namibia (2012). *Environmental Management Act no. 7 of 2007*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.

https://www.petroind.com/collections/self-bunded-tanks/products/petro-liquitainer-self-bunded-tanks. Retrieved: March 25,2019.

Mendelsohn. Jarvis. A, Roberts.C, Robertson. T (2003). Atlas of Namibia. Cape Town South Africa: David Philip publishers.

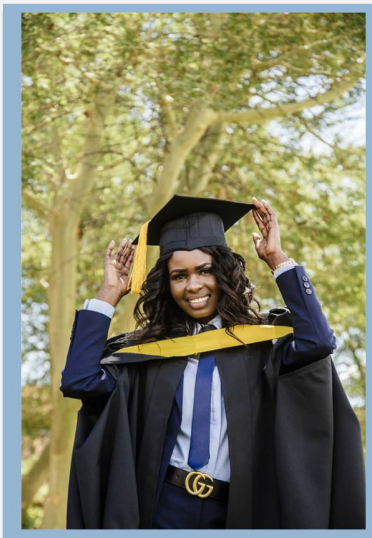
SANS 10089-1 (2008): The petroleum industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations

SANS 10131 (2004): Above-ground storage tanks for petroleum products

Appendix E

Cv of EAP

Nam Geo-Enviro Solutions



occupation

- Environmental scientist

Education

- Bachelor of Science (Environmental Biology) Honours degree (University of Namibia)

Martha Dumeni

Key Experiences:

•

- Environmental Assessment & Management
- Water, Ecology, Climate & Livelihoods
- Project Planning and Management

Project Experience

2017- Environmental monitoring and evaluation report
Operation of existing bulk storage facility for petroleum products in Grootfontein, Otjozondjupa region: Namibia.

2017- Environmental monitoring and evaluation report
Operation of existing le Platz Service Station in Tsumeb, in Oshikoto region: Namibia.

2017- Environmental monitoring and evaluation report
Operation of existing . Oshakati Engen Service station in Oshakati, Oshana region: Namibia.

2017- Environmental monitoring and evaluation report
Operation of existing Super Jakaranda Service Station in Otjiwarongo, Otjozondjupa region: Namibia.

2017- Environmental monitoring and evaluation report
Operation of existing Northwest Service Station in Usakos, Erongo region: Namibia.

EMPLOYMENT RECORD

2019 -Present Nam Geo-Enviro Solutions Environmental Scientist

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

_____ Date: 06 February 2020
Signature of staff member or authorized representative of the staff