

ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE

PROPOSED FUEL RETAIL FACILITY ON ERF 1132, OHANGWENA EXTENSION 5, HELAO NAFIDI TOWN, OHANGWENA CONSTITUENCY, OHANGWENA REGION.



JULY 2021

Prepared by	Prepared for:
NGHIVELWA CONSULTANTS	ONE WAY INVESTMENT CC
P.O. Box 40900	P. O. BOX 239
AUSSPANNPLATZ	OHANGWENA
CEL: +264 85 323 2230	
E-MAIL: planning@nghivelwa.com.na	E-MAIL: jshimunyengu@gmail.com

Name of representative of the EAP	Education qualifications	Professional affiliations
Nghivelwashisho Natangwe Ndakunda	B-Tech Town and Regional Planning	Namibia Council of Town and Regional Planners
Elina SP Vakuwile	B-tech Environmental Management	Environmental Scientist (EAPAN Member)

Client

Name	Position/ Role	Address
One Way Investment cc	One Way Service Station (Proponent)	P. O Box 239 Ohangwena

LIST OF ABBRECIATIONS

TERMS	DEFINITION
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
DEA	Department of Environmental Affairs
PPPPs	Projects, Plans, Programmes and Policies
ULP	Unleaded Petrol
SANS	South African National Standards
I&APs	Interested and Affected Parties

Contents

INTRODUCTION.....	6
Project Overview.....	6
Terms of Reference.....	6
Acknowledgement	7
Report Content	8
EIA METHODOLOGY	9
Establishment of the environmental baseline	9
Impact analysis.....	10
Impacts mitigation.....	10
Review of alternatives.....	10
Public Participation Process (PPP).....	11
POLICY AND OTHER RELEVANT LEGISLATIONS	11
The Namibian Constitution	11
Environmental Assessment Policy (1994)	11
Cradle to Grave Responsibility.....	12
Precautionary Principle	12
The Polluter Pays Principle	13
Public Participation and Access to Information	13
Environmental Management Act of Namibia (2007)	13
Environmental Management Act Regulations (2012).....	14
National Heritage Act No. 27 of 2004	14
Water Resource Management Act on Namibia (2013)	14
Petroleum Products and Energy Act of Namibia (Act No. 3 of 2000).....	14
Pollution Control and Waste Management Bill (guideline only)	15
Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976).....	16
Hazardous Substances Ordinance (No. 14 of 1974).....	16
Public Health Act (Act 36 of 1919)	16
PROJECT RATIONALE	17
SCOPE OF THE EIA.....	18

DESCRIPTION OF THE PROPOSED ACTIVITY	19
Proposed location and land ownership	19
Description of the filling station	22
Description of the Proposed Construction of the Project	23
Proposed Project Activities	24
Activities during the Construction Phase	24
Activities during the operation and maintenance phase	25
Activities at the decommissioning phase	25
Need and Desirability of the Proposed Project	26
Timing of the activity	26
BASELINE DATA	26
Locality and Surrounding Land Use	27
Climate and Temperatures	27
Geology, Topography and drainage	28
Vegetation	29
Soils	29
SOCIO-ECONOMIC ENVIRONMENT	29
Demographics	29
Economic activities	30
Education Profile	30
Employment Opportunities & Income	30
Health Profile	31
Immigration	31
Acquisition	31
Tourism	31
Amenities	32
ANALYSIS OF ALTERNATIVES	32
Locations	32
The “No Project” Alternative	33
PUBLIC PARTICIPATION PROCESS (PPP)	33

Aim for Public Participation Process (PPP)	34
Compilation of stakeholder database.....	34
Background Information Document	34
Notification of I&Aps	35
Advertisements	36
Public Meeting held on Site	36
Issues raised by interested and affected parties.....	37
ENVIRONMENTAL ASSESSMENT METHODOLOGY.....	37
Impacts Associated with Construction Phase	40
Impacts Associated with Operational Phase.....	53
Impacts Associated with Decommissioning Phase	63
CONCLUSION	63
REFERENCES.....	64

INTRODUCTION

Project Overview

One Way Investment cc proposes to construct and operate a fuel retail facility outlet to be named One Way Service Station on Erf 1132, Ohangwena Extension no. 5, Helao Nafidi Town, Ohangwena Region, along the B1 road to Oshikango. The retailer intends to supply fuel to the general public.

Nghivelwa Planning Consultant has been appointed to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the proposed Fuel Retail Facility. The Environmental Impact Assessment was conducted to meet the requirements of Namibia's Environmental Management Act (No. 7 of 2007) and Petroleum Products and Energy Act (Act No. 13 of 1990).

An EIA may be defined as a study that completes an effective land use policy that anticipate the environmental consequences and enhance positive effects of a development (thus a fuel retail facility for One Way Service Station) before planning permission is granted.

EIA thus has some of the following main functions:

- To predict problems,
- Proposes modified designs to reduce environmental impacts
- Identifies possible and reasonable alternatives
- Predicts significant adverse impacts
- Identifies mitigation measures to reduce, offset, or eliminate major impacts
- Engages and informs potentially affected communities and individuals
- Influences decision-making and the development of terms and conditions

Terms of Reference

The proposed project for the construction of the fuel retail facility (One Way Service Station) in Helao Nafidi Town is a listed activity that cannot be undertaken without an Environmental

Clearance Certificate. Therefore, as part of the commissioning process an Environmental Impact Assessment (EIA) is required.

Thus, One Way Service Station Trading appointed Nghivelwa Planning Consultant to provide consultancy services to undertake an environmental impact assessment in compliance with the Environmental Management Act (No. 7 of 2007).

The Terms of Reference (ToR) for the consultants are, but not limited to the following:

- The collection of all possible data on the environmental, social and natural resource components and parameters of necessity;
- A description of the location of the proposed project including the physical area that may be affected by the project activities;
- Description of the design of the proposed project;
- Description of the activities that will be undertaken during the project construction, operation and decommissioning phases;
- Listing of the materials to be used, products and by products, including waste to be generated by the project and the methods of disposal;
- Identification of the potential environmental impacts of the proposed project and
- The mitigation measures to be taken during and after implementation of the project;
- Accidents during the project cycle;
- Establishment of a plan to ensure the health and safety of the workers and neighbouring communities;
- Identification of the economic and socio-cultural impacts of the proposed project
- Economic and social analysis of the project including project risk and measures to mitigate them.
- Establishment of an action plan for the prevention and management of possible (EMP).
- The consultant will prepare recommendation on the project for its future use.

Acknowledgement

Nghivelwa Planning Consultant has prepared this EIA Scoping Report on behalf of One Way Service Station. The proponent (One Way Service Station) has been extremely forthcoming in

providing the necessary information and documents and in providing necessary guidance during undertaking of the study and preparation of the report.

Therefore, the Consultant (Nghivelwa Planning Consultant) hereby acknowledges the help, advice and information provided by the proponent (One Way Service Station), as well as the support and interest shown by all the identified stakeholders and public.

Report Content

The outline of the report structure is given below:

1. Chapter 1: presents the introduction which will deal with the background, Terms of Reference, Report Content, and Acknowledgement
2. Chapter 2 presents the EIA Methodology
3. Chapter 3 covers Policy, and other Relevant Legislations applicable to developments of this type of project in Namibia. It describes briefly the Regulatory Framework such as, the Namibian Constitution, Environmental Assessment Policy (1994), Environmental Management Act of Namibia (2007), Environmental Management Act Regulations (2012), National Heritage Act No. 27 of 2004, Water Resource Management Act of Namibia (2013),
4. Chapter 4: Presents Project Rationale
5. Chapter 5: Scope of the EIA
6. Chapter 6: covers the Overview of the proposed project which describes the project description, project details and the proposed project activities
7. Chapter 7 describes the Baseline Information. The following aspects are covered in this Chapter:
 1. *Locality and Surrounding Land Use*
 2. *Climate and Temperatures*
 3. *Topography and drainage*

4. *Geology*
5. *Soil*
6. *Hydrology*
7. *Soils*
8. *vegetation*
8. Chapter 8: Socio-Economic Development
9. Chapter 9: covers Analysis of Alternatives
10. Chapter 10: presents Public Participation Process
11. Chapter 11: describes Environmental Assessment Methodology

EIA METHODOLOGY

The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity and the findings used to inform the competent authority's decision whether the activity should be authorised subject to conditions that will reduce the impacts to acceptable levels, or should not be accepted. In this sense impacts are defined as the changes in an environmental or social parameter that result from undertaking the proposed activity. The following general methodology was used in this EIA of the proposed One Way Service Station on Erf 1132, Ohangwena Extension 5 in Helao Nafidi Town; to investigate the potential impacts on the social and natural environment due to the construction and operation of the fuel retail facility:

The key activities undertaken during the assessment included the following:

Establishment of the environmental baseline

This involved study and description of the receiving environment on which the proposed project is to be implemented. Thus, it involved a site visit, physical inspection of the study area's soil, biology, topography, animal species, water resources, climate and the local socio-economic environment.

Impact analysis

This involves the identification of impacts that are usually associated with the construction, operation or maintenance and decommissioning of the proposed activity and are generally obvious and quantifiable. These impacts were analyzed and evaluated.

Impacts mitigation

This involves the identification of the impacts and once impacts have been identified and predicted for a particular activity, then appropriate mitigation measures need to be established. Mitigation measures are the modification of certain activity in a way that will reduce the impacts on the physical and socio-economic environment. The objectives of mitigation are to:

- Find more environmentally sound ways of doing things;
- Enhance the environmental benefits of a proposed activity;
- Avoid, minimize or remedy negative impacts; and ensure that remaining negative impacts are within acceptable levels.

Furthermore, impacts associated with all the stages of the proposed project were identified and mitigated. An Environmental Management Plan has been prepared as framework for mitigation of impacts and environmental monitoring of the project.

Review of alternatives

This entailed a review of the alternatives to the proposed project. This was aimed at determining better ways of avoiding or minimizing environmental impacts while still realizing the project goals. The review of alternatives provided opportunities for environmental enhancement. The alternatives reviewed were alternative sites, alternative implementation technology, alternative designs, alternative fuel sources and the no project alternative.

Public Participation Process (PPP)

The public participation process was carried out by informing relevant stakeholders to the proposed project and by conducting a site meeting on the proposed project site. The public was invited to raise their concerns on the proposed project through newspaper advertisements that were placed in two (2) local newspapers the New Era and the Confidante of the 24th June 2021 and 1st July 2021. A site meeting was held on the 8th of July 2021. But, none showed up for the meeting.

POLICY AND OTHER RELEVANT LEGISLATIONS

The following are the legal instruments that govern or advocate the construction and operation of a Fuel Retail Facility:

The Namibian Constitution

The Constitution of Namibia encourages wise and sustainable use of its resources. According to Article 95 of Namibia's Constitution provides that "the State shall actively promote and maintain the welfare of the people by adopting policies aimed at the following:

(1) "maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory".

This article recommends that a relatively high level of environmental protection is called for in respect of pollution control and waste management.

Environmental Assessment Policy (1994)

The environmental assessment policy details the principles of achieving and maintaining sustainable development that underpin 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 provides guidance on undertaking the assessment procedures.

It further provides a guideline list of all activities requiring an impact assessment. The proposed development is listed as a project requiring an impact assessment as per the following points in the policy:

- Transportation of hazardous substances & radioactive waste.
- Storage facilities for chemical products.
- Industrial installation for bulk storage of fuels.

The policy provides a definition to the term “environment” - broadly interpreted to include biophysical, social, economic, cultural, historical and political components and provides reference to the inclusion of alternatives in all projects, policies, programmes and plans. Cumulative impacts associated with proposed developments must be included as well as public consultation. The policy further requires all major industries and mines to prepare waste management plans and present these to the local authorities for approval.

Apart from the requirements of the Draft Environmental Assessment Policy, the following sustainability principles need to be taken into consideration, particularly to achieve proper waste management and pollution control:

Cradle to Grave Responsibility

This principle provides that those who manufacture potentially harmful products should be liable for their safe production, use and disposal and that those who initiate potentially polluting activities should be liable for their commissioning, operation and decommissioning.

Precautionary Principle

There are numerous versions of the precautionary principle. At its simplest it provides that if there is any doubt about the effects of a potentially polluting activity, a cautious approach should be adopted.

The Polluter Pays Principle

A person who generates waste or causes pollution should, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.

Public Participation and Access to Information

In the context of environmental management, citizens should have access to information and the right to participate in decisions making.

Environmental Management Act of Namibia (2007)

The Environmental Management Act, No.7 of 2007 specifies the environmental assessment procedures to be followed and the activities that require an EIA. The Act provides a procedure for environmental assessments as indicated under Part VII and Part VIII, which is set out to:

- better inform decision makers and promote accountability in decisions taken;
- strive for public participation and involvement of all sectors of the Namibian community in the environmental assessment process;
- take into account the environmental costs and benefits of proposed policies, programmes and projects;
- take into account the secondary and cumulative environmental impacts of policies, programmes and projects; and
- Promote sustainable development in Namibia, and especially ensure that a reasonable attempt is made to minimize the anticipated negative impacts and maximize the benefits associated with the development.

Environmental Management Act Regulations (2012)

The Environmental Management Act Regulations have been finalised (February 2012) and have been used as guidance in the compilation of this scoping report. Namibia's Environmental Assessment Policy was the first formal effort in the country to regulate the application of environmental impact assessment. The regulation set out the process to be followed during the compilation of EIA reports as well as the minimum requirements for such reports.

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.

Water Resource Management Act on Namibia (2013)

The Water Resources Management Act, No.11 of 2013 provide for the management, protection, development, use and conservation of water resources; to provide for the regulation and monitoring of water services and to provide for incidental matters.

Section 35 imposes that “Without prejudice to the powers conferred on the Minister responsible for health under the laws relating to public health, the Minister, with the concurrence of the Minister responsible for health must, for the purpose of ensuring the supply of healthy and safe water under this Act”.

Petroleum Products and Energy Act of Namibia (Act No. 3 of 2000)

“To provide measures for the saving of petroleum products and an economy in the cost of the distribution thereof, and for the maintenance of a price therefore; for control of the furnishing of

certain information regarding petroleum products; and for the rendering of services of a particular kind, or services of a particular standard, in connection with motor vehicles; for the establishment of the National Energy Fund and for the utilization thereof; for the establishment of the National Energy Council and the functions thereof; for the imposition of levies on fuel; and to provide for matters incidental thereto”.

Regulated by the Ministry of Mines and Energy

Pollution Control and Waste Management Bill (guideline only)

The proposed development of the fuel retail facility (One Way Service Station) on Erf 1132, Ohangwena Extension 5 in Helao Nafidi Town in reference to the above, only applies to Part 2, 7 and 8 respectively.

- Part 2 (section 21 (1)) states that “no person shall discharge or cause to be discharged any pollutant to the air from a process except under and in accordance with the provisions of an air pollution licence issued under section 23”.

And further provides for procedures to be followed in licence application, fees to be paid and required terms of conditions for air pollution licences.

- Part 7 (section 74 (1)) stipulate that “any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances”.

Furthermore, under section 75 (1) “The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions of Part 10”.

- Part 8 provides accident prevention policies and emergency, which under section 77 (1) “The Minister may by regulations require any person in possession of specified hazardous substances or products containing hazardous substances, or any person carrying on a specified activity involving a significant risk of harm to human health or the environment, to take measures to limit the risk of accidents occurring as a result of those substances or activities”.

Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976)

Part 2 of the Ordinance discuss and governs the control of noxious or offensive gases, the premises on which scheduled process carried on to be under section 5 (1) (a) (i) “no person shall within a controlled area carry on a scheduled process in or on any premises unless he is the holder of a current registration certificate authorising him to carry on that process in or on those premises”, application for and issue and provisional of registration certificates, the period of validity and conditions of provisional registration certificates and the condition set for registering a certificate.

Regulated by the Ministry of Health and Social Services

Hazardous Substances Ordinance (No. 14 of 1974)

The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.

Regulated by the Ministry of Health and Social Service

Public Health Act (Act 36 of 1919)

The act was enacted; “To provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters”.

Section 3 (2) governs the following in terms of the Act were “every local authority must take the necessary and reasonably practicable measures to”;

- (a) Maintain its local authority area at all times in a hygienic and clean condition;
- (b) Prevent the occurrence within its local authority area of:
 - (i) a health nuisance;
 - (ii) an unhygienic condition;
 - (iii) an offensive condition; or
 - (iv) other condition which could be harmful or dangerous to the health of a person within its local authority area or the local authority area of another local authority;
- (c) if a health nuisance or condition referred to in paragraph (b)(i) to (iv) has so occurred, to abate or cause to abate the health nuisance or condition or to remedy or cause to be remedied, the health nuisance or condition;

(d) to prevent the pollution of water intended for human consumption, irrespective whether the water is obtained from sources within or outside its local authority area, or to purify the water which has become so polluted;

PROJECT RATIONALE

The economy of the many towns in Namibia is driven mainly by construction, retail, manufacturing, tourism, farming, education and transport. With the border post at Oshikango currently being the busiest Namibian border post, these commercial activities are the reason the B1 road to Oshikango is dominated by cross border, local and long distance taxis, heavy transporting vehicles transporting their commodities and commuting residents to the formal and informal and settlements to Helao Nafidi town in the region Ohangwena. It is therefore the aim of this development to become a service provider in the fuel retail industry.

The Environmental Impact Assessment was conducted to meet the requirements of Namibia's Environmental Management Act (No. 7 of 2007) and Petroleum Products and Energy Act (Act No. 3 of 2000).

The proponent proposes to develop a fuel retail facility with components that includes:

- Two pump islands
- Two underground petroleum storage tanks (UPSTs)
- A heavy duty covered man hole for each of the UPSTs
- Oil and water separators
- Air and water point
- An office section
- Sanitary facilities
- A soak pit
- Associated piping work
- Compressor Generator Room

The objective of EIA is to identify, predict and evaluate the economic, environmental and social impact of development activities, to provide information on the environmental consequences for decision making and to promote environmentally sound and sustainable development through the identification of appropriate alternatives and mitigation measures.

SCOPE OF THE EIA

The objectives of the scope of the EIA were to ascertain key issues of the environmental impacts that are likely to be more important during all the phases of the Project. Relevant environmental data have been compiled by making use of primary data which is the site assessment done on the 7th July 2021 and secondary data. Potential environmental impacts and associated social impacts was identified and addressed in this report.

The construction and operation of the proposed service station will involve;

- Preparation of the site, including excavations.
- The installation of new fuel storage facilities.
- Installation of fuelling network pipelines and associated pumps.
- Transport of fuel supply with road transport tanker trucks.
- Off-loading of fuel into underground petroleum storage tanks
- The dispensing of fuel into vehicles.
- Construction of a building (including a convenience store, an office and sufficient parking facilities).

The Environmental Impact Assessment study report includes an impact assessment and their mitigation measures of all the three phases of the proposed project following:

- The field investigations (site assessment),
- Identifying and involving all stakeholders in the Environmental Impact Assessment process by expressing their views and concerns on the proposed project;

- Identify all potential significant adverse environmental and social impacts of the project and recommend mitigation measures to be well described in the Environmental Monitoring Plan (EMP);
- Coordination with the proponent, regarding the requirements of law of Namibia's Environmental Management Act (No. 7 of 2007) and Petroleum Products and Energy Act (Act No. 13 of 1990);
- To define the Terms of Reference for the Environmental Impact Assessment study.
- A review of the policy, and relevant legislations
- To provide overall assessment information of the social and biophysical environments of the affected areas by the proposed new Fuel Retail Facility.

DESCRIPTION OF THE PROPOSED ACTIVITY

Proposed location and land ownership

The proposed activity involves the construction of a Fuel Retail Facility on an undeveloped Erf 1132, Ohangwena Extension no 5 in Helao Nafidi Town, along the B1 Road Ohangwena to Oshikango, Oshana Region. The proposed Fuel Retail Facility will be owned by One Way Service Station. The proposed site covers the area of 8452m². The GPS coordinates of the location of the proposed project site are (latitude 17° 27.931'S; longitude 15° 53.799'E).

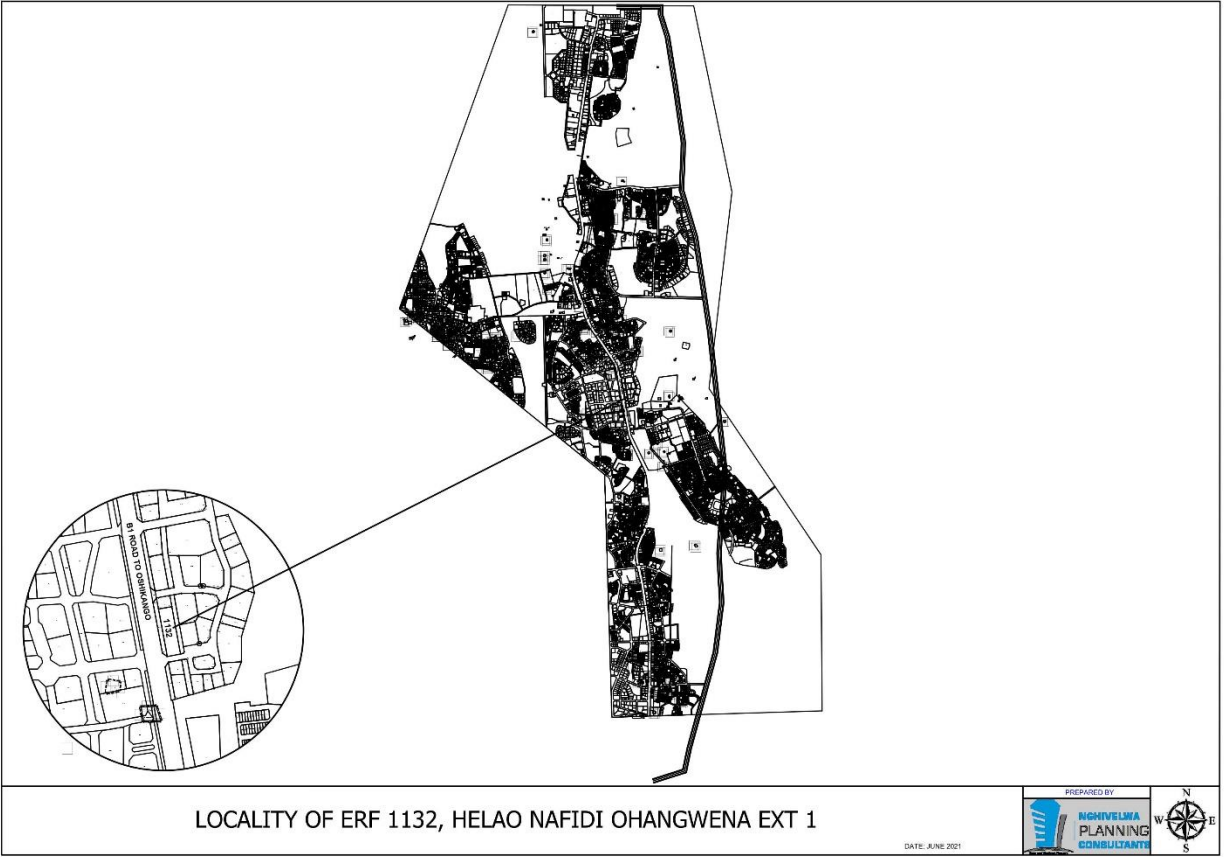


Figure 1: Locality Map



Figure 2: Google Earth Locality Map





Figure 3: Site Photos

Description of the filling station

There are no specific details of the exact design and layout of the filling station at present, due to the fact that the entire project is still in the design phase.

The proposed filling station is a typical filling station. Therefore, in accordance with the relevant SANS standards, the facility will have a canopied forecourt with three or four dispensing islands on which pumps for the dispensing of fuel from the underground storage tanks will be located. Furthermore, the suitable dispensing pumps and fuel network pipelines will also be constructed according to the Ministry of Mines and Energy specified standards for fuel retail facility.

The proposed fuel retail facility will consist of two underground storage tanks (fibre-reinforced resin coated steel tanks):

- a) (i) One 46,000-litre capacity underground fuel storage tanks for unleaded petrol
- b) (ii) One 46,000-litre capacity underground fuel storage tank for 500ppm diesel
- c) Two pump islands
- d) Fire protection equipment as per project drawing plans
- e) Necessary fittings and other works as per the project drawing plans
- f) Canopied forecourt with dispensing pumps;
- g) In addition, current practice is to include facilities such as a convenience store and car wash in the overall filling station design.

Fuel from these tanks will be pumped through underground pipes, which will be laid to the forecourt area, where it will finally be dispensed into customers' vehicles.

The installation of the fuel tanks and pipelines at the filling station will be in line with SABS Standards (SANS 10089: Parts 1-3). Furthermore, this project will fulfil the requirements of the Water Act and SABS 089:1999 that, all storm water that may potentially be contaminated by fuel or oil spills will be directed to a separator unit prior to exiting the site. In addition, waste water from the carwash facility will drain through a separator before discharge to main sewer.

Description of the Proposed Construction of the Project

The project involves the construction of a filling station with:

- The two underground fuel tanks, each of 46 000 litres (46 cubic metre) capacity;
- Canopied forecourt with dispensing pumps;
- Convenience store with bakery section;
- Branded take away; and Car wash facility.

In addition to the above-mentioned facilities, the project also proposed to construct the following tourism related facilities as part of the development:

- Tourism Information Centre;
- Outlet and display for crafters;
- Parking space for cars and tour buses;
- Additional Shops; and
- Garden & play area.

Proposed Project Activities

The project will consist of three (3) phases, namely the construction, operational and possible decommissioning phase.

Activities during the Construction Phase

a) *Site Office*

The contractor shall construct a temporary site office to run and manage all activities at this phase.

b) *Site clearance and fencing*

This will involve clearance of the little vegetation that is currently found at the proposed site. The site will then be isolated for public safety and for the security of construction material and equipment.

c) *Excavation*

This will involve excavation of the ground for installation of the tanks and other substructures as per the engineering drawings. This will use appropriate excavation equipment. This process will generate waste in form of spoil soil and rock particles.

d) *Installation of tanks, erection of pumps and backfilling*

The underground fuel storage tanks and fuel pumps will then be installed as per the project design. The pits will then be backfilled with hard core and compacted soil.

e) *Construction of superstructures*

This will entail construction of superstructures including the convenient store which will comprise of toilets, a mini shop, display shop, office and other proposed elements.

f) *Plumbing*

Necessary plumbing for connection of fuel tanks and dispensers and for water supply to the project site will be done.

g) *Installation of fire protection equipment*

The appropriate firefighting equipment (carbon dioxide, dry powder, foam and bucket of sand) will then be installed.

h) *Other fittings (builder's works)*

These will include reinforced concrete beams, fuel dispenser shed, site lighting and other necessary fittings.

Activities during the operation and maintenance phase

- Filling of the tanks from road transport tankers.
- Dispensing of fuel into vehicle tanks and other containers.
- Maintenance activities will include facility cleaning, underground tanks and dispensers. routine checks and other necessary repairs

Activities at the decommissioning phase

- Careful removal of the fuel dispensers,
- Careful excavation and removal of the underground fuel storage tanks after emptying the fuel therein, appropriate treatment of any contaminated soil as necessary, backfilling of the excavations with suitable material such as pebbles or construction dug out soil, proper disposal of decommissioned facilities and other wastes using a licensed waste collector
- And landscaping at the project site – planting of grass and trees (or shrubs). The major emphasis here will be restoration of the affected environment,
- Proper disposal of dismantled material and protection of public health and safety.

In this development, it is agreed that there will be employment opportunities in all the phases of the project. Therefore, it is estimated that there will be 70 possible direct job opportunities associated with construction phase with 15-20 indirect jobs that could be generated during this phase of the development. Furthermore, there will be the creation of between 20 and 25 permanent jobs associated directly with the operation of the various development components. A further 10 to 15 indirect job opportunities are likely to be generated in other sectors such as servicing the development. However, it is to be expected that some of these indirect opportunities will take other people outside Helao Nafidi.

Need and Desirability of the Proposed Project

The economy of the many towns in Namibia is driven mainly by construction, retail, manufacturing, tourism, farming, education and transport. With the border post at Oshikango currently being the busiest Namibian border post, these commercial activities are the reason the B1 road to Oshikango is dominated by cross border, local and long distance taxis, heavy transporting vehicles transporting their commodities and commuting residents to the formal and informal settlements to Helao Nafidi town in the region Ohangwena.

Therefore, given the reason above, there is a need and desirability for the proposed fuel retail facility to known as One Way Service Station to be established along the main road (Ohangwena-Oshikango B1 Road), on Erf 1132, Ohangwena Extension 5 in Helao Nafidi Town, Ohangwena Region.

Timing of the activity

The proposed project is likely to take between 1 to 2 years depending on the statutory approvals from the authorities. The construction of the fuel retail facility is only expected to take not more than 1 year.

BASELINE DATA

This section lists the most important environmental characteristics of the study area and provides a statement on the potential environmental impacts on each. The SANS 10089 part 3 (2010) standards for the Petroleum Industry are used for the baseline assessment (reported on in this

section) and subsequent impact assessment (reported on in Section 8) to incorporate all required and related issues in the investigation.

Locality and Surrounding Land Use

The proposed fuel retail facility will be situated on Erf 1132, Ohangwena Extension 5, Helao Nafidi Town in Ohangwena Region that is situated along the curve of the B1 road to Oshikango, see Figure 1(Site Location). The project is on an undeveloped vacant land and there is no vegetation found on the land. Furthermore, and there are no nearby occupied sites on the surrounding area of the proposed site. The Erf 1132 is in the a newly serviced extension (Ohangwena Extension 5) and any building in that extension have been compensated by Helao Nafidi Town Council and will be relocated soon. The surrounding area is allocated mostly for business purposes by the Helao Nafidi Town Council (Site Location Map).

Climate and Temperatures

According to source, webpage; <https://www.besttimetovisit.co.in/namibia/helao-nafidi-4027144/>, Helao Nafidi has the semi-arid climate prevailing. It is warm to hot all year round and trees don't grow here because of the drought. It consists mainly of sand with grasses and sometimes shrubs. The average annual temperature for Helao Nafidi is 26° degrees and there is about 262 mm of rain in a year. It is dry for 265 days a year with an average humidity of 35% and an UV-index of 5.

Table 1: Summary of General Climate Data

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>Day</i>	29°C	28°C	26°C	24°C	23°C	20°C	20°C	24°C	27°C	29°C	29°C	30°C
<i>Night</i>	19°C	17°C	16°C	13°C	10°C	7°C	6°C	9°C	13°C	16°C	18°C	19°C
<i>Precip</i>	48 mm	69 mm	52 mm	18 mm	2 mm	0 mm	0 mm	0 mm	2 mm	11 mm	18 mm	41 mm
<i>Rain Days</i>	14	15	15	10	2	0	0	0	2	3	6	12

<i>Dry Days</i>	17	13	16	20	29	30	31	31	28	28	24	19
<i>Sun Hrs/Day</i>	10	10	10	10	10	10	10	10	10	10	11	10
<i>Wind Force In Bft</i>	2	2	2	2	2	2	3	2	2	3	3	2
<i>UV-index</i>	6	6	5	5	4	4	4	5	6	6	6	6

Geology, Topography and drainage

Namibian geology is dominated in the north by unconsolidated sediments and calcrete called Cuvelai-Etoshia Basin which is situated in the central-northern area of the country. It extends northwards into Southern Angola and represents the largest aquifer system in the northern part of Namibia, covering an area of approx. 100,000 km². The Cuvelai-Etoshia Basin is an extensive sedimentary basin which is part of the much larger Kalahari Basin covering parts of Namibia. This includes the Ohangwena region in the area where the proposed project (One Way service station in Helao Nafidi, Ohangwena Extension 5) is to be established. These areas are of a sediment that is loosely arranged or whose particles are not cemented together (soft rock) and they are loosely arranged. They are also weathered crust in dry and semiarid regions and is represented by a mixture of sand and silt paved by calcite, dolomite, gypsum, halite, and ferric oxide.

According to An extent soil classification system for the Etosha National Park and adjacent areas in central northern Central Namibia (1993), the topographical and drainage of Helao Nafidi in the Ohangwena region is an extremely flat and poorly drained physiographic region comprising, in the greater part, strongly salty alluvial (clay, silt, sand, gravel, or similar detrital material deposited by running water) which have been deposited by the Kunene River. To the east the alluvial plain is over taken by aeoline sands and self-dunes. The western limits are confined by aeoline sands remnants, extensive deposits of tertiary to recent calcretes from the mountainous and strongly dissected Ruacan Plateau. Where the Oshana Etaka crosses the Angola boundary minor relief exists to the extent of elevation differences of 10 metres between the floors of the Etaka valley and the surrounding alluvial plain.

Vegetation

The vegetation in this area is described as woodland dominated mainly by trees and shrubs. The vegetation on site consists of short grass moderately scattered around the site. The project site is currently serviced by the Helao Nafidi Town Council but no much clearing of vegetation will occur.

No endangered species were observed present on site; therefore, no threat to vegetation was identified. No wildlife was observed in the vicinity of the study area, only domestic animals mainly cattle, goats and donkey are present in the vicinity of the proposed project site.

Soils

In the document compiled by “An extent soil classification system for the Etosha National Park and adjacent areas in central northern Central Namibia (1993)”, the soils of the region have been classified into types according to criteria based on profile morphology and the physical and chemical constitution of the soil individuals. Typically, the soil in the regions can be classified as alkali soils or solonetzthe soils. Alkali soils occur in semi-arid areas and have at their surface a thin litter followed by a thin dark mixture of organic and mineral material and then a dark grey somewhat sandy horizon, below this is the very distinctive middle horizon (natric B horizon, so/om) with its marked clay increase and a pH value that is often over 8,5 due to high exchangeable sodium. These soils are unproductive owing to their alkalinity and because they are very impermeable, extremely plastic when wet and form hard clods when dry.

SOCIO-ECONOMIC ENVIRONMENT

Demographics

Helao Nafidi is a town in Ohangwena Region in northern Namibia at the border to Angola. It has been established in 2004 as an amalgamation of several villages and settlements along the B1 main road between Oshikango and Ohangwena which are both also part of the town. Helao Nafidi has 19,375 inhabitants. The town is separated into three urban areas, Oshikango in the north, bisected by the Namibian–Angolan border, and Omafo and Ohangwena south of it, with settlements and villages in the agricultural area between them.

Economic activities

The border post at Oshikango is currently the busiest Namibian border post with on average 500 people crossing per day. This has brought business opportunities to the surrounding area. With the help of the European Union an Export Processing Zone was established there, consisting of 14 warehouses. Omafo, another suburb of Helao Nafidi, hosts an annual trade show.

According to the NAMIBIA-IINFO.COM, the Ohangwena Province's business sector is thriving thanks to tourist funding generated from visits. There are loads of stalls, souvenirs, shops, products and high quality restaurants available in the area. A list of all the businesses can be found on the business directory. Historical and cultural enthusiasts will definitely enjoy visiting this province with its many activities and attractions. Its business community is doing well today thanks to it being a border town.

Education Profile

Ohangwena has 234 schools with a total of 90,703 pupils. According to the Namibia Statistic Agency (2011) the population aged 6 years and above in Ohangwena Region, 13.5 percent never attended school. A higher proportion of the population that never attended school was found in rural areas (14.0%), compared to urban areas (9.6%). 46 percent of the population had incomplete primary education and about 8 percent completed their secondary education before leaving school, while about 41 percent completed primary school. On the other hand, only close to 3 percent of the population had completed tertiary education. The same pattern can be observed among females and males.

School enrolment for the school-going population aged 5 to 24 years and by sex. Enrolment rates were highest for the ages of 7 to 14 years, exceeding 80 percent, but dropped after the age of 15 years, especially for males. Generally, more females than males were enrolled in the age group 5-17 years, except at ages 6 and 10

Employment Opportunities & Income

The system of migrant labour was established during the colonial period, and it is still a strong component of life in Owambo. A considerable part of the male population in working age spend part of their life working elsewhere in Namibia on commercial farms, in mines, industries, construction, transport etc. Accordingly, the proportion of female-headed households is rather

high. The average size of an extended family is 10-11 persons, but average sizes of households are around 7-8 members, since about 20 % of the members are living elsewhere.

Health Profile

In Namibia, the HIV prevalence rate in pregnant women age group 15 to 49 is estimated at 21.3% (UNDP, 2005). While the HIV prevalence rate in the Oshana Region stands at 15.9%. Ninety-four percent of the population in the region have access to safe drinking water, while 15 % have poor or no access to toilet facilities.

In addition, in the wake of the deadly Covid-19 pandemic, the Government of the Republic of Namibia has put in place measures to contain the spread of the virus. Such measures have included lockdowns of certain regions/towns, shut down of schools, banning of religious gathering, limiting numbers of people attending weddings & funerals and or meetings and restrictions of movements of people. The borders have also remained strict for coming in and out of the country for tourists.

Immigration

The proposed facility will attract some immigrants to the town of Helao Nafidi for employment and business opportunities. This might cause worry to the local community currently residing in the area as they might feel left out from the benefits of the development in their own town.

Acquisition

Jobs coming from the construction and operation of the proposed facility will be outsourced to small medium enterprises in the area.

Tourism

Tourists/travelers can experience the Kwanyama culture and hiking and biking trails by visiting the town of Helao Nafidi which also hosts an annual trade show. Therefore, many tourists and business people to attend the annual trade show from the Ohangwena's province borders on Angola and four other provinces of the country – Kavango, Oshikoto, Oshana and Omusati. There are various cultural, historical and craft-based enterprises in the communities, conservancies and

community forests/ community gardens. Furthermore, most tourists and business people travelling through northern Namibia and Angola etc. find a resting place in the upmarket lodges, hotels and motels located in Helao Nafidi.

Amenities

There are different types of schools from primary to tertiary, government office, hotels, banks, shops, malls and entertainment areas around the town of Helao Nafidi.

ANALYSIS OF ALTERNATIVES

In terms of environmental impact assessment best practice, assessment of potential impacts from a proposed activity must include the assessment of alternatives. Assessment of alternatives is undertaken to identify the option that will minimise harm to the environment and may include site, technology and other alternatives, but must always include the option of not implementing the activity, known as the “no-go” alternative.

Locations

The proponent has the option of undertaking the proposed development in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development. The following reasons justify the use of the proposed site for the development:

- The land is allocated to One Way Service Station.
- The site is suitable for development of a fuel service station. This is simply because the land is undeveloped and strategically located along the B1 main road, between the Ohangwena and Oshikango road. Thus, it will greatly benefit all motorists travelling on the B1 main road as well as benefiting residents of Helao Nafidi and people from nearby towns.
- There is adequate space for the proposed development on the land.
- The proposed site is located at a suitable location that will avoid problems associated with traffic system.

The “No Project” Alternative

The No-Go Option is the option not to proceed with the activity, implying a continuation of the current situation/ status quo. That means no development is undertaken on the land and thus retains the original environment. Without the project the land would not be put into optimum use. In the socio-economic point of view, the no project option is the least preferred option due to the following factors:

- The need for a more modern fuel retail facility in the area will be lacking.
- Increasing number of motorists frequenting the area and the surrounding area will decrease due to the lack of fuel supply to motorists in the area.
- The fuel shortage problem in the area will not be solved.
- The local skills would remain underutilized.
- Reduced technology advancement at the town and interaction both at local, national and international levels.
- No employment opportunities will be created for the locals who would work on the project.
- Poverty will not be eradicated.

PUBLIC PARTICIPATION PROCESS (PPP)

In terms of Section 7 of the Environmental Assessment Regulations (2012), this section provides details of Public Participation Process (PPP) undertaken in the compilation of this EIA scoping report.

The Ministry of Environment and Tourism defines the Environmental Assessment Regulations (2012) of the Environmental Management Act (2007), as a process in which potential interested and affected parties such as neighbouring landowners, local authorities, environmental groups, village councils and communities, to comment on the potential environmental impacts associated with the proposed project. Besides these legal requirements, the consultation of the public and other relevant stakeholders was undertaken to ensure that their voices are heard and taken into account during the decision-making process.

Aim for Public Participation Process (PPP)

The aim for the Public Participation Process is not limited to;

- Informing Interested and Affected Parties (I&APs) of the proposed project;
- Identifying issues, comments and concerns as raised by I&APs;
- Promoting transparency and an understanding of the project and its consequences;
- Serving as a structure for links and communication with I&APs; and
- Providing local knowledge and input in identifying potential environmental (biophysical and social) impacts and “hotspots” associated with the proposed development.

Compilation of stakeholder database

The first step in the Public Participation Process (PPP) is to identify key stakeholders. A stakeholder database was compiled and the target groups for this project were invited to the public meeting, these were and not limited to:

- Helao Nafidi Town Council
- Ohangwena Constituency (Ohangwena Regional Council)
- NORED (Northern Regional Electricity Distributor)
- Neighbouring landowners (Helao Nafidi Town Council)
- General public

Background Information Document

This document provides a short summary of the project and the EIA process. A background information document (BID) was prepared and was ready to be distributed to Interested & Affected Parties. However, no body requested for it since people did not show up for the meeting. See a copy of the BID attached.

Notification of I&Aps

The requirements for the notification of potentially interested and affected parties of this application are set out in detail in section 21 of the EIA regulation. These requirements have been addressed and include:

- Forwarding letters to government authorities and other identified relevant stakeholders;
- Fixing a notice board at a place noticeable to the public in Oshiwambo & English;
- Announcement of the public meeting through Oshiwambo National Radio Station
- Placing advertisements two local newspapers for two consecutive weeks.

Figure 4 & 5 below shows proof of notification on site and on Helao Nafidi Town Council notice board.



Figure 4: Site Notification



Figure 5: Office Notification Board

Advertisements

The advertisement of the public participation and public meeting for the proposed project were placed in two local newspapers, the New Era and the Confidante of the 24th June 2021 and 1st July 2021. Proof of advertisements are attached.

Public Meeting held on Site

In compliance with the EIA Regulations (2012), public (I&AP) and all stakeholders were notified as a requirement for EIA process. Therefore, to incorporate the varying needs of stakeholders and I&APs, as well as to ensure the relevant interactions between stakeholders and the EIA specialist team, the public was invited to the public meeting on Erf 1132, Ohangwena Extension 5, and Helao Nafidi Town – as per the itinerary below:

Venue	Date	Time
Erf 1132, Ohangwena Extension 5, Helao Nafidi Town	08 July 2021	16:00PM - 17:00PM

Despite advertising the public meeting in two newspapers, no one showed up for the meeting see attendance register attached. The public interest on this project is minimal. Letters for comments were sent to the identified key stakeholders for comments see a copy of the letter for comments attached.

Issues raised by interested and affected parties

No comments received on the project from interested and affected parties (stakeholders), although they were notified about the project.

ENVIRONMENTAL ASSESSMENT METHODOLOGY

An appraisal of the type of effect the proposed fuel retail facility would have on the environment; rate as either positive (beneficial on the environment), neutral (no impact on the environment), or negative (adverse impact on at a cost to the environment).

Table 2: Assessment and Rating of Severity

Rating	Description
1	Negligible / non-harmful / minimal deterioration (0 – 20%)
2	Minor / potentially harmful / measurable deterioration (20 – 40%)
3	Moderate / harmful / moderate deterioration (40 – 60%)
4	Significant / very harmful / substantial deterioration (60 – 80%)
5	Irreversible / permanent / death (80 – 100%)

Table 3: Assessment and Rating of Duration

Rating	Description
1	Less than 1 month / quickly reversible
2	Less than 1 year / quickly reversible
3	More than 1 year / reversible over time
4	More than 10 years/ reversible over time/ life of project or facility
5	Beyond life of project or facility/ permanent

Table 4: Assessment and Rating of Extent

Rating	Description
1	Within immediate area of the activity
2	Surrounding area within project boundary
3	Beyond project boundary
4	Regional/ Provincial
5	National/ International

Consequence is calculated as the average of the sum of the ratings of severity, duration and extent of the environmental impact.

Table 5: Determination of Consequence

Determination of Consequence (C)	(Severity + Duration + Extent) / 3
---	---

Table 6: Assessment and Rating of Frequency

Rating	Description
1	Less than once a year
2	Once in a year
3	Quarterly

4	Weekly
5	Daily

Table 7: Assessment and Rating of Probability

Rating	Description
1	Almost impossible
2	Unlikely
3	Probable
4	Highly likely
5	Definite

Likelihood

Likelihood considers the frequency of the activity together with the probability of the environmental impact associated with that activity occurring.

Table 8: Determination of Likelihood

Determination of Likelihood (L) =	(Frequency + Probability) / 2
--	--------------------------------------

Environmental Significance

Environmental significance is the product of the consequence and likelihood values.

Table 9: Determination of Environmental Significance

Rating	Description
L (1 - 4.9)	Low environmental significance
LM (5 - 9.9)	Low to medium environmental significance

M (10 - 14.99)	Medium environmental significance
MH (15 - 19.9)	Medium to high environmental significance
H (20 - 25)	High environmental significance. Likely to be a fatal flaw

Impacts Associated with Construction Phase

Potential effects on the environment and their mitigation measures during construction are:

Dust Pollution – These are expected to be site specific, short-termed and will most probably pose a negligible nuisance and health threat to those residing nearby. The construction of the proposed facility will have impact on the surrounding air quality as construction vehicle will be frequenting the site and surrounding areas.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	2	2	3	2.33	5	3	4	Negative	6.33 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur therefore; dust suppression during the construction process is advised if dust becomes an issue. - Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust. 									
Mitigated	1	2	2	1.66	5	2	3.5	Negative	5.16(LM)

Noise Impact – Noise pollution will be produced due to construction equipment and heavy machinery on site. Earthmoving equipment will be utilised during the construction phase and noise may thus be generated. Village properties nearby (<150m) the site may be impacted. During construction, noise can interfere with student’s learning and studying, might degrade social interactions, disrupt speech communication, can also lead to emotional distress or annoyance, or lead to physical health problems such as permanent loss of memory or a psychiatric disorder if in excessive noise pollution.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	2	2	3	2.33	5	3	4	Negative	9.32 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof or alternatively, all construction workers should be equipped with ear protection equipment. - Construction should be limited to working hours only (07H00- 19H00). - Noise pollution should be addressed and mitigated at an early stage of construction phase. 									
Mitigated	1	2	1	1.33	5	3	4	Negative	5.32 (LM)

Safety and Security – During the construction and decommissioning phase, earthmoving equipment will be used on site. This increases the possibility of injuries. Presence of equipment may encourage criminal activities (theft). In terms of safety, crime and prostitution are key factors that needs to be looked at. This is because new developments such as construction attracts people from nearby settlements looking for jobs as construction workers. Once the work is completed, they continue inhabiting the area and end up committing crimes such as prostitutions and house breaks.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	3	3	3	5	2	3.5	Negative	6.5 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. - Should a construction camp be necessary, it should be located in such a way that it does not pose a risk to the public. - Equipment housed on site must be placed in a way that discourages criminal activities. - For safety and security reasons it is recommended that the entire site (construction site and camp) be fenced-off and security personnel be employed to safeguard the premises and to avert criminal activities. - Relevant safety signs should be clearly displayed. - The contractor must ensure that there are emergency facilities such as first aid kits on the site, in order to help employees to save others in case of emergency or injuries; - The proponent must appoint the Health Officer to train and brief all employees about the potential risks of injuries on site so that they will have the knowledge of helping themselves or others in case of injuries. - For safety reasons children should also be kept from making the site a playground and their access should be prevented. - The contractor is further advised to ensure that adequate emergency facilities, including first aid kits, are available on site. 									
Mitigated	1	2	0	1	1	1	1	Negative	2 L

Impacts on Traffic – The site is adjacent to the Ohangwena – Oshikango main road. Construction related activities are expected to have a minimal impact on the movement of traffic along the road. Accidents might occur if no qualified drivers employed to drive vehicles for the project.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	2	3	2.66	5	5	5	Negative	7.66 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - No diversion of traffic or closure of the road is expected. - The responsible contractor must ensure that all drivers employed have valid driver's licenses of vehicle types they employed for, and that they have experience in driving those vehicles. - The contractor must ensure that there is always a supervisor on site to ensure that no driver under the influence of alcohol or narcotics to be authorized to drive company's vehicles. 									
Mitigated	1	2	2	1.66	5	3	4	Negative	5.66 (LM)

Generation of Waste- during this phase, construction waste is expected to be lying around if not properly handled or managed. This can be in a form of contaminated soil and building rubble.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	4	3	2	3	5	5	5	Negative	8(LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Ensure that no excavated soil, refuse or building rubble generated on site are placed or dumped on surrounding properties or land. - Contaminated waste in the form of soil, litter, building rubble and other material must be disposed of at an appropriate disposal site. - Waste must be disposed of at an appropriately classified waste disposal site. - Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts; - Waste handling procedures must be cleared with the Helao Nafidi Town Council and the construction contractor should be informed about this. - To avoid contaminating the soil and underground ecosystem, no wastewater should be disposed on soil. 									
Mitigated	1	5	1	2.33	5	2	3.5	Negative	5.83 (LM)

Groundwater Contamination – Leakages from equipment and machinery might occur during the construction phase that will lead to the contamination of the groundwater.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	2	1	2	5	3	4	Negative	8 (M)
Mitigation measures:									
<ul style="list-style-type: none"> - Chemicals used during construction e.g. paint and paint remover is also posing a risk. Care must be taken to avoid contamination of soil and groundwater. - Proper toilet facilities should be installed at the construction site and at the camping site or alternative arrangements made. - The contractor shall ensure that there is no spillage when the toilets are cleaned or during normal operation and that the contents are properly removed from site. - Fuel (diesel and petrol) and oil containers shall be in good condition and placed in a bonded area or on plastic sheeting covered with sand (temporary bonding). 									
Mitigated	1	2	1	1.33	5	3	4	Negative	5.32 (LM)

Health and Safety – Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. is important and should be adhered to. During construction phase, there is a possibility of injuries to occur if no measures are taken into consideration.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	5	2	1	2.66	5	3	4	Negative	6.66 (LM)
Mitigation measures: <ul style="list-style-type: none"> - During construction, earthmoving equipment will be used on site. This increases the possibility of injuries and the responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. - The contractor is further advised to ensure that adequate emergency facilities are available on site. - All Health and Safety standards specified in the Labour Act should be complied with. 									
Mitigated	1	1	1	1	2	1	1.5	Negative	2.5 (L)

Covid-19 Control and Prevention - This EIA is conducted during the time when the whole world is battling to contain the spread of the deadly SARS CoV-2, the virus that causes Coronavirus Disease 2019 (Covid-19). Depending on the type of work being performed and exposure risk, it is incumbent upon the employers to provide a safe and corona-free working environment and for the employees to comply with the control and prevention measures as stipulated by the Covid-19 provided by the Ministry of Health & Social Services.

Mitigation-The Covid-19 general guidelines recommended to be applied by the employers, employees and patrons during the three phases of the filling station are:

- Wash your hands frequently with soap and clean water for at least 20 seconds

- Avoiding touching your eyes, nose and mouth with unwashed hands
- Practice social distancing by staying a distance of at least 2 meters from the next person when queuing at the filling station or any other place
- Avoid close contact with people who are sick with Covid-19
- Wear face mask which covers the mouth and nose
- Comply with laws and regulations as announced by the authority from time to time
- Observe and comply with symbols in the figure below:

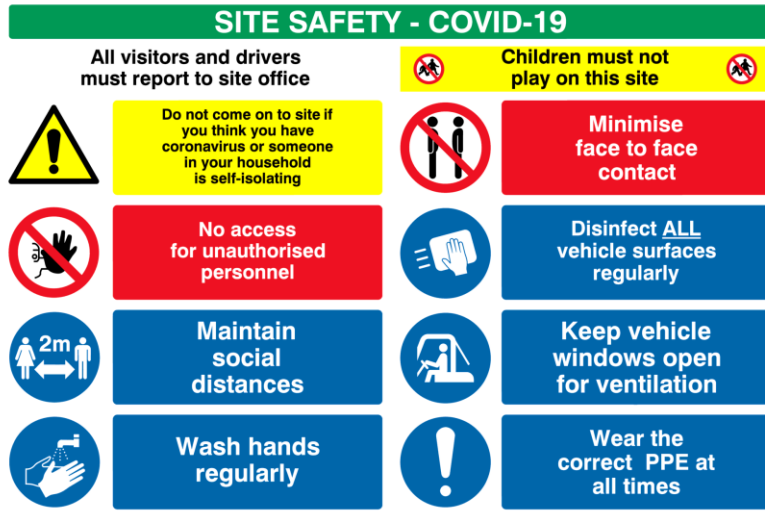


FIGURE 1: Covid-19 Safety Signs & Symbols

Ecological Impacts

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	1	1	1	1	1	1	Negative	1 (L)
Mitigation measures:									
- No known conservation worthy vegetation is located on the proposed facility.									
Mitigated	1	1	1	1	1	1	1	Negative	1 (L)

Increased Informal Settlement and Associated Problems

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	3	3	2.33	1	5	3	Negative	5.33 (LM)
Mitigation measures:									
- Lack of proper housing may encourage informal settlements around the proposed site. Unskilled migrant workers are expected to choose cheaper housing options and thus opt for informal housing options. This can be mitigated by giving employment preference to locals that can proof normal residence in the area.									
Mitigated	1	2	2	1.66	1	1	1	Negative	2.66 (L)

Increased Spread of HIV/ AIDS- migrant workers with HIV/AIDS may affect local people leading to a high rate of HIV/AIDS in Ohangwena.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	5	5	5	5	5	5	5	Negative	10(M)
Mitigation measures: <ul style="list-style-type: none"> - The spending power of locals and expatriates working for the developer and/or its contractors are likely to increase, and this might be a perfect opportunity for sex workers to explore. Migrant labourers from other regions and expatriates are normally vulnerable and may use the services rendered by the sex workers. A key initiative should be to educate workers. <i>See section 9 (Socio-economic Environment) for details on region statistics.</i> 									
Mitigated	1	2	3	2	0	2	1	Negative	3 (L)

Increased Inflow to Helao Nafidi Town

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence / Significance
Unmitigated	1	3	2	2	5	3	4	POS/NEG	6(LM)
Mitigation measures: <ul style="list-style-type: none"> - More job opportunities may attract more non-local job seekers. This may lead to an increase housing demand with potential stimulation of property values and economic activities through increased spending in area. This impact can be seen as both positive and negative. It is still advised to give employment preference to locals that can proof normal residence in the area. 									
Mitigated	1	2	3	2	5	3	4	POS/NEG	6.64 (LM)

Heritage Impacts – There are no known heritage areas or artefacts deemed to be impacted by the construction.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	1	1	1	1	1	1	Negative	1 (L)
Mitigation measures:									
<ul style="list-style-type: none"> - During construction, the contractor might come across archaeological features or objects that possess cultural values. If archaeological remains or objects with cultural values (e.g. Pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc) are uncovered at the exploration camp or surrounding, it should be cordoned off and the relevant authorities should be contacted immediately. 									
Mitigated	1	1	1	1	1	1	1	Negative	1 (L)

Stimulation of Skills Transfer (Positive Impact)

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	2	1	1.33	5	3	4	Positive	5.32 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - As the construction and operation of the development requires specialised work and skills it can be expected that experts will be training locals in certain skills during development and operation. 									
Mitigated	1	2	1	1.33	5	3	4	Positive	5.32 (LM)

Employment Creation (Positive Impact)

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	2	2	1.66	2	5	3.5	Positive	5.16 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Various employment opportunities will be created during all phases of the development, ranging from highly skilled to unskilled. The development is expected to create more than 10 skilled and unskilled posts. Preference should be given to local residence and to Namibian Citizens. - When recruiting, the responsible contractor should ensure gender equality is taken into consideration that both men and women are employed equally and treated equally. - Equity, transparency, should be put into account when hiring and recruiting and that Public Participation i.e. Community Leaders or Community committees should also take part in the recruiting process for decision makings. - In terms of human resource development and capacity building, the contractor must 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. 									
Mitigated	1	2	5	2.66	3	5	4	Positive	6.66 (LM)

Cumulative Impacts

Possible cumulative impacts associated with the construction phase include increase in traffic into Helao Nafidi Ohangwena Extension 5. Therefore, increase in emissions from these vehicles, decreasing the air quality around the proposed establishment. Wear and tear on the road, coupled with increased risk of road traffic incidences. These impacts will however be short lived.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	2	2	1.66	5	3	4	Negative	6.64 (LM)

Mitigation measures:									
Mitigated	1	2	1	1.66	4	3	3.5	Negative	5.81 (LM)

As discussed in the different sections, impacts are expected to be low to medium, short lived and site specific. An Environmental Management Plan (EMP) will ensure that the impacts of the construction work are minimised and includes measures to reduce the identified impacts during construction of the facility while ensuring that vehicles and pedestrian traffic are suitably protected to avoid accidents and injuries. The appointed contractor should be made aware of the content and environmental requirements of this report so as to plan the construction phase accordingly.

Impacts Associated with Operational Phase

Specific impacts identified, associated with the operational phase are:

Spillage

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	2	5	2	3	4	4	4	Negative	7 (LM)

Mitigation measures:

- Spillages might occur during delivery to the storage tanks. Risks of such an impact can be lowered through proper training of staff and the installation of suitable containment structures.
- Spillages occurring at the filler point and dispensing (i.e. offloading) area must be contained and cleaned up.
- Any water containing waste (wastewater) generated as a result of the spillage and associated clean up, must be disposed of safely and in accordance with environmental legislation.
- No product must be allowed to be discharged into municipal storm water / sewer system and or surrounding environment.

Mitigated	1	0	1	0.66	0	2	1	Negative	1.66 (L)
-----------	---	---	---	------	---	---	---	----------	----------

Overfilling of Storage Tanks

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	2	3	2	2.33	4	4	4	Negative	6.33 (LM)

Mitigation measures:

- Overfilling of the tanks may also take place and proper monitoring of the product levels in the tanks must take place to eliminate overfilling.
- The Underground Storage Tanks must be fitted with an overfill protection device.

Mitigated	1	0	1	0.66	0	1	0.5	Negative	1.16 (L)
-----------	---	---	---	------	---	---	-----	----------	----------

Overfilling of Vehicles

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	3	3	1	2.33	5	5	5	Negative	7.33 (LM)

Mitigation measures:

- The operators must be well trained and must focus on filling the vehicle to avoid the overfilling.
- This impact can also be reduced by the installation of spill containment areas around the pumps.

Mitigated	1	1	1	1	2	2	2	Negative	3 (L)
-----------	---	---	---	---	---	---	---	----------	-------

Fire and Explosion Hazard

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 subsequent safety risks may arise. Therefore, an integrated fire prevention plan should be drafted before “start-up” of the facility. Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 2000 (Act No. 3 of 2000).

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	5	5	2	4	2	3	2.5	Negative	6.5 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - All personnel have to be sensitised about responsible fire protection measures and - The Emergency Response Plan should be implemented and should address the potential spills and workers should be trained on the actions that are to be taken if such an events are to occur; - Regular inspections should be carried out to inspect and test, firefighting equipment and pollution control measures at the fuel storage facility. - All fire precautions and fire control at the fuel retail facility must be in accordance with SANS 10089-1:1999, or better. A holistic fire protection and prevention plan is needed. - Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognise 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. - It must be assured that sufficient water is available for firefighting purposes. 									
Mitigated	1	0	1	0.66	0	2	1	Negative	1.66(L)

Damage to Pipelines and Tanks- Damages to pipelines and tanks may occur due to vehicle movements and excavations. Leakage of the damaged structure is most likely to follow.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	2	1	1	1.33	1	1	1	Negative	1.33 (L)
Mitigation measures:									
<ul style="list-style-type: none"> - Due to vehicle collision and damage during excavations. This can be mitigated through careful designs, warning signs and sensible operations in the area. - Utility clearance investigations should be conducted before any excavation commences on the site. 									
Mitigated	1	1	1	1	1	1	1	Negative	1 (L)

Surface Water Contamination – Within Ohangwena Region there are no permanent rivers or lakes. It is highly unlikely that contaminated surface runoff from the site will reach any surface water bodies like Oshanas which is way far from the site as there is no surface body like in a 500m radius. Surface water which flows during the rainy season in ephemeral rivers and oshanas and collects in natural pans.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	4	5	5	4.66	5	3	4	Negative	8.66 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - This water can be channeled and stored in ponds and reservoirs 									

<ul style="list-style-type: none"> - Proper containment mechanisms installed such as oil/water separators should be able to contain any spillages that might occur during the operation of the facility. - In case of accidental spill, it must be all employee's responsibility to ensure that all accidental surface spills of oil or fuel is contained on-site and transferred to the oil/water separator - Littering of empty tin oil containers can also cause spillage, therefore the contractor must ensure handling and storage of all petrol/ oil equipment are properly managed in an approved manner. 									
Mitigated	1	1	1	1	1	2	1.5	Negative	1.5 (L)

Groundwater Contamination

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	3	5	3	3.66	1	3	2	Negative	7.32 (M)
Mitigation measures:									
<ul style="list-style-type: none"> - Due to leakage and spillage, the risk of groundwater pollution can be lowered through proper training of staff and the installation of suitable containment structures. - Overfilling of the tanks may also take place and proper monitoring of the product levels in the tanks must take place to eliminate overfilling. - Regular tank and pipeline tightness inspections are advised to eliminate the risk of impact on the environment due to leakage. 									
Mitigated	1	1	1	1	1	2	1.5	Negative	1.5 (L)

Increased Noise Pollution

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	3	5	2	3.33	5	5	5	Negative	8.33 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - More vehicles are expected to frequent the site, but the impact is expected to be minimal. Sound volumes should be kept low if public address systems are used on the site. 									
Mitigated	1	1	1	1	2	1	1.5	Negative	2.5 (L)

Air Quality- In terms of air quality, hydrocarbon vapours will normally be released during delivery as liquid displaces the gaseous mixture in the tanks.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	5	5	4	4.66	5	5	5	Negative	9.66 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Vent pipes should be placed in such a manner as to prevent impact on potential receptors. - All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner. 									
Mitigated	1	0	1	0.66	0	2	1	Negative	1.66 (L)

Health Impacts- The operations of the retail facility can cause serious health and safety risks to workers on site. Occupational exposures are normally related to dermal contact with fuels and inhalation of fuel vapours during handling of such products.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	5	5	4	4.66	5	5	5	Negative	9.66 (LM)
Mitigation measures:									
For the reason stated above, adequate measures must be brought in place to ensure safety of staff on site, and includes:									
<ol style="list-style-type: none"> 1. Proper training of operators; 2. Figure 1 of covid-19 signs and regulations should be placed on site and followed. 3. First aid treatment; 4. Medical assistance; 5. Emergency treatment; 6. Prevention of inhalation of fumes; 7. Protective clothing, footwear, gloves and belts; safety goggles and shields; 8. Manuals and training regarding the correct handling of materials and packages should be in place and updated as new or updated material safety data sheets becomes available; and 9. Monitoring should be carried out on a regular basis, including accident reports. 									
Mitigated	1	1	1	1	2	2	2	Negative	3 (L)

Generation of Waste

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	3	5	3	3.66	5	5	5	Negative	8.66 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - All general waste should only be collected by the waste disposal Licensed contractor authorized by the Local Authority which is the Helao Nafidi Town Council - Waste minimization policy. Bioremediation of contaminated soil. - Waste in the form of contaminated soil due to spillages might occur, but should be prevented through the use of containment areas as provided. - Tank sludge and spill clean - up materials should be managed via re-processing for product recovery or as a waste at a facility licensed to handle this type of material in an environmentally sound manner. - Oil water / separator effluent originating from storm water runoff, tank bottoms and washing activities should be separated before disposal of the water. - Regular monitoring of the oil water separator outflow is required, if applicable. Care should be taken when handling contaminated material. - Water containing soaps and other detergents must not enter the oil water / separator as it will place the hydrocarbons in suspension, rendering the oil water separator ineffective. - The cradle to grave principal should be kept in mind during waste disposal. - The work environment should be kept clean, thus good house-keeping should be maintained. 									
Mitigated	1	2	2	1.66	1	3	2	Negative	3.32 (L)

Economic Impacts (Positive Impact)

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	1	5	2.33	2	3	2.5	Positive	4.8 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Creation of new employment opportunities. This is deemed to be a positive impact. It is not clear how many new, permanent employment positions will be created but it is expected to be about 15 people. - It is recommended to put local people at forefront when hiring or recruiting people, therefore unskilled people from the local community should be employed and semi-skilled from the region so that unskilled workers can be trained by semi-skilled for them to learn and be able to compete with others in future. - Equity, transparency, should be put into account when hiring and recruiting and that Public Participation i.e. Community Leaders or Community committees should also take part in the recruiting process for decision makings. 									
Mitigated	1	2	3	2	2	5	3.5	Positive	5.5(LM)

Stimulation of Economic Development (Positive Impact)

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/Significance
Unmitigated	1	5	5	3.66	5	3	4	Positive	7.66 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - The development of the new modern fuel facility in Helao Nafidi is expected to enhance the economic development around Helao Nafidi Town and other parts of Ohangwena Region. The construction of the fuel retail facility with a convenience store and other needed services are expected to boost development confidence of the area. - Employment should be given to people from Helao Nafidi or within the Ohangwena Region for them to boost the development locally. 									

Mitigated	1	5	4	3.33	5	5	5	Positive	8.33 (LM)
-----------	---	---	---	------	---	---	---	----------	-----------

Impacts Associated with Decommissioning Phase

At this point, it is difficult to visualise and assess the decommissioning phase, although the procedures for decommissioning phase should be the same as for the construction phase however, there will be possible pollution from the fuel in the storage and dispensing equipment. Furthermore, during the decommissioning phase, an Environmental Impact Assessment (EIA) will be required and the disposal of decommissioned equipment and hazardous contaminated materials should be disposed following the disposal of hazardous materials.

During the decommissioning phase, all the storage facilities to be removed and should be drained properly following guidelines for tank removal in order to reduce the risk of fuel spillage and groundwater contamination. Furthermore, all the remains and waste that will be created during this phase should be disposed of at an approved waste facility and not dumped in the surrounding areas. These should be done in accordance with the Helao Nafid Town Council's waste management regulations and guidelines.

CONCLUSION

One Way Investment cc proposes to construct and operate a fuel retail facility (One Way Service Station) on Erf 1132, Ohangwena Extension 5, Helao Nafidi Town, in Ohangwena Constituency in the Ohangwen Region. Therefore, proponent should follow the guidelines as set by the relevant governing departments to maintain and foresee environmental management principles during construction operation/occupation phases and decommissioning phases of the proposed projec

REFERENCES

- SANS 100131:1982: The storage and Handling of Liquid fuel. Part 111: Bulk flash-point fuel storage and allied facilities at large consumer installations.
- SANS 100131:1999: The petroleum industry. Part 3: The installation of underground storage tanks, pumps/dispensers and pipe works at service stations and consumer installations.
- BESTTIMETOVISIT. <https://www.besttimetovisit.co.in/namibia/helao-nafidi-4027144/>
- An extended soil classification system for the Etosha National Park and adjacent areas in Central Northern Central Namibia. 1993. DFG/GTZ-Cooperation Project Soils and Environmental Change in the Etosha National Part/Namibia (Az: Bu 659/4-1). Field paper No. 1 June 1993.
- NAMIBIA-IINFO.COM
- Namibia Statistics Agency, Government of the Republic of Namibia, Study Documentation (2011)