ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED PERMANENT CLOSURE OF ERF 586 TSUMEB, EXTENSION 4 – OSHIKOTO REGION NAMIBIA

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

DEC 2022

APP: 230124000894

PROPONENT

MR. SHAVUKA GENERAL DEALER CC

ENVIRONMENTAL CONSULTANT

ENVIROPLAN CONSULTING CC

DOCUMENT DATA SHEET

DOCUMENT VERSION 001

PROJECT NAME	**THE PROPOSED PERMANENT CLOSURE OF ERF 586 TSUMEB, EXTENSION 4 – OSHIKOTO REGION NAMIBIA**
REPORT TITLE	**ENVIRONMENTAL MANAGEMENT PLAN (EMP)**
PROPONENT	**SHAVUKA GENERAL DEALER CC**
ENVIRONMENTAL CONSULTANT	**ENVIROPLAN CONSULTING CC** **POSTAL BOX:** 8401, Bachbrecht **PHONE NO:** +264 (0) 813634904 **EMAIL ADDRESS:** tendai@enviroplanconsult.com
MET PROJECT NO.	**APP: 230124000894**
AUTHORS	**TENDAI E. KASINGANETI**
DATE OF SUBISSION	**14 December 2022**

Contents

List of Figures

List of Tables

Definitions

TERMS	DEFINITION
BID	Background Information Document
EAP	Environmental Assessment Practitioners
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA (R)	Environmental Impact Assessment (Report)
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EMPr	Environmental Management Plan Report
GHG	Greenhouse Gasses
ISO	International Organization for Standardization
I&Aps	Interested and Affected Parties
MET: DEA	Ministry of Environment and Tourism's Directorate of Environmental Affairs
NHC	National Heritage Council
NEMA	Namibia Environmental Management Act
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

i. Purpose of This Environmental Management Plan

This Environmental Management Plan follows on environmental impacts associated with the permanent closure which were identified in the Environmental Scoping Report. A conscious decision was made based on the recommendations and guidelines by the Directorate of Environmental Affairs EIA guidelines in order to assess both significant and less significant environmental impacts proposed by the development. The developed Environmental Management Plan (EMP) for this proposed activity will have to be effectively implemented by the client, to ensure that adverse environmental impacts are not considered.

The framework within which this EMP is developed includes identifying various activities, their occurrence in the construction and operation processes and the likely impacts that are associated with those activities.

It is therefore necessary to subcategorize the EMP into Construction and Operational activities. The first category of the EMP which deals with project activities identified and highlight the activities impacts and the phases they are likely to occur. In this respect, this EMP alludes on anticipated construction activities and the mitigation measures that will need to be applied to reduce the severity of the impacts the proposed service station may have on the surrounding environment. This will also include rehabilitation measures that will need to be implemented once the construction is completed and how to continuously monitor the plant in accordance to monitoring parameters highlighted herein.

ii. EMP PRINCIPLES

The following principles have informed the compilation of this environmental management Plan:

- The environment is considered to be composed of both biophysical and social components.
- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- Development must be socially, environmentally and economically sustainable.
- Construction, in general, is a disruptive activity and all due consideration must be given to the environment, particularly the social environment, during the execution of the project to minimize the impact on the affected parties.
- Minimization of areas disturbed by construction activities will reduce the severity of the construction related environmental impacts and reduce rehabilitation requirements and costs.
- As minimum requirements, relevant standards relating to international, national, regional and local legislation, where applicable, shall be adhered to. This includes

requirements relating to waste emissions (e.g. hazardous, airborne, liquid and solid), waste disposal practices, noise regulations, road traffic ordinances etc.

- Reasonable measures to avoid pollution and environmental degradation are to be provided for.
- The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling, or minimizing further pollution, environmental damage or adverse health effects must be paid for by the person responsible for harming the environment.
- The responsibility for the environmental, health and safety consequences of the proposed development exists throughout its life cycle

1. CHAPTER ONE: BACKGROUND

1.1. Introduction

Shavuka General Dealer cc referred to as the proponent is the owner of Erf 586 Tsumeb, Extension 4 measuring at ±2 961m² in extent. As per the requirements of the Township and Division of Land Ordinance 1963 and the Environmental Management Act No. 7 of 2007, the proponent appointed EnviroPlan Consultants to undertake an Environmental Scoping Assessment (ESA), formulate an Environmental Management Plan (EMP) and apply for an Environmental Clearance Certificate (ECC) to the Ministry of Environment, Forestry and Tourism (MFET): Directorate of Environmental Affairs (DEA).

In this respect, this document forms part of the application to be made to the DEA's office for an Environmental Clearance Certificate (ECC) for the proposed permanent closure of erf 586 Tsumeb, extension 4 – Oshikoto Region Namibia.

1.2. Project Location & Description

Erf 586 is located in Hage Geingob Street in Tsumeb, Extension 4 at coordinates S19°15'03.55" E017°42'36.43". The proponent entails to rezone Erf 586 from a "Public open space" to a business with a bulk of 2.0. The area consists of no vegetation except *Phoenix dactylifera* due to human disturbance such as cars and/or trucks which use the area as parking space. Notable in the surrounding are business establishment buildings such as shopping malls. The map below (Fig 1) locality of the project site.

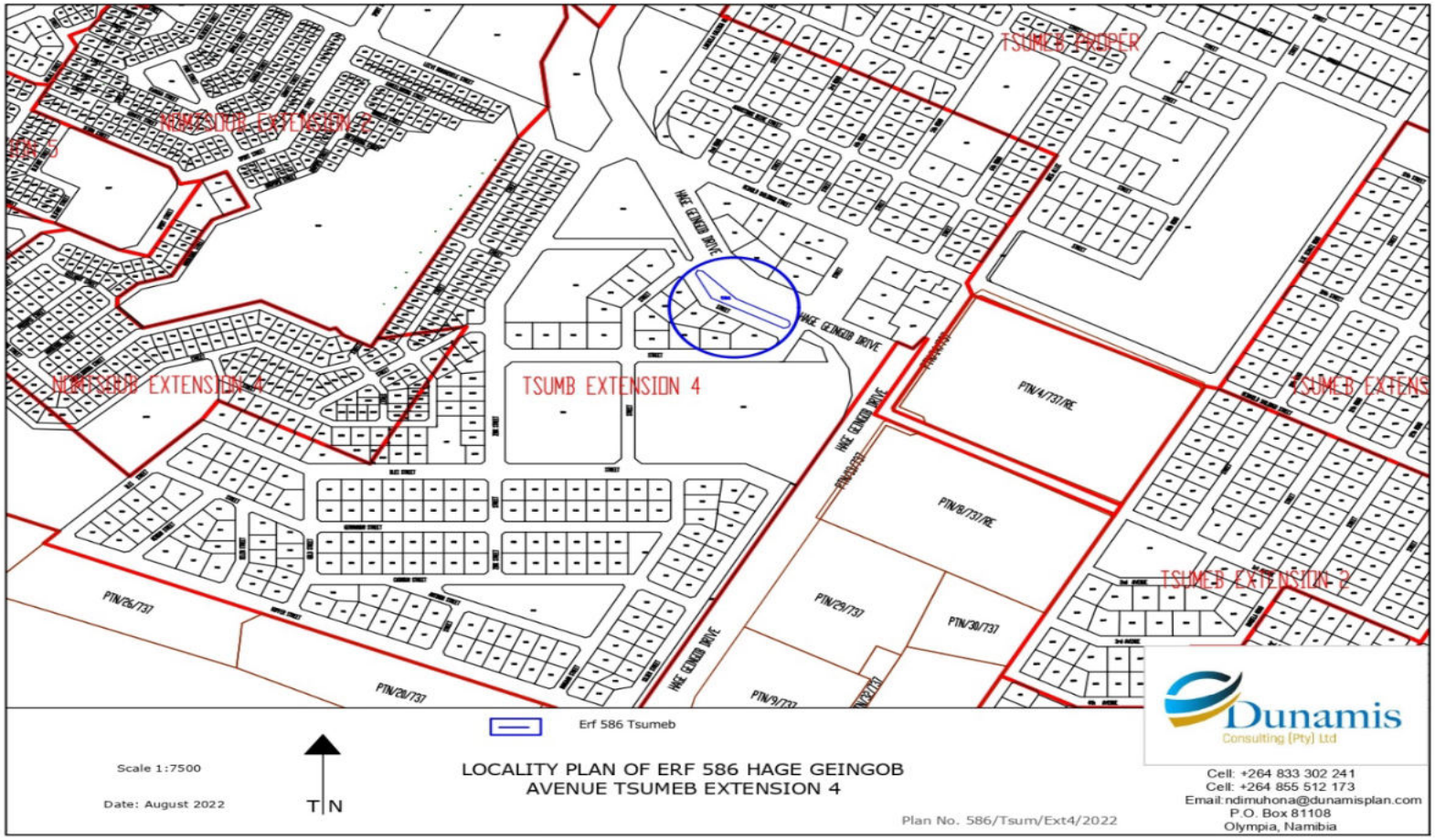

Figure 1: Development Layout

2. CHAPTER THREE: ENVIRONMENTAL MANAGEMENT PLAN (EMP)

2.1. Introduction

In line with the Namibian Environmental Management legislation and International best practices, the proponent will implement an Environmental Management Plan (EMP) to prevent, minimise and mitigate negative impacts. The environmental management plan is being developed by EnviroPlan Consulting cc to address all the identified expected impacts, the plan will be monitored and updated on a continuous basis with aim for continuous improvement to addressing impacts.

This section outlines the Environmental Management Plan (EMP) for the proposed rezoning establishment project. The EMP stipulates the management of environmental programs in a systematic, planned and documented manner. The EMP below includes the organizational structure, planning and monitoring for environmental protection at the proposed development site and other areas of its influence. The aim is to ensure that the facility maintains adequately controlled over the project operations to:

- To prevent negative impacts where possible;
- Reduce or minimise the extent of impact during project life cycle;
- Prevent long term environmental degradation.

2.2. EMP Administration

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 (project manager) to ensure the successful implementation of the EMP as highlighted on table 3:

Table 1: Roles and Responsibilities in EMP Implementation

ROLE	RESPONSIBILITIES
Shavuka General Dealer cc	• Responsible to enforce EMP implementation to contractors
Environmental Control Officer	• Implement, review and update the EMP. • Ensure all reporting and monitoring required under EMP is undertaken, documented and distributed as needed • Conduct environmental site training (toolbox talks) and inductions with the support of an environmental consultant.

ROLE	RESPONSIBILITIES
	• Conducts environmental audit at work site with the support of environmental consultant. • Close out all non-conformances. • Ensure materials being used on site are environmentally friendly and safe.
The Department of Environmental Affairs	• Review the EMP and any amendments to the EMP. • Review reports of environmental issues and non-conformances as issued. • Review and approve environmental reports submitted as part of EMP implementation
Site Engineers	• Control and monitor actions required by the EMP. • Report all environmental issues to HSE Manager. • Ensure documented procedures are followed and records kept on site. • Ensure any complaints are passed onto the management within 24 hours of receiving the complaint.
Employees	• Follow requirements as directed by site engineers. • Report any potential environmental issues to site engineer/project manager, indicating spilt oil, excess waste, excessive dust generation, dirty water running off the site and other possible non-conformances

2.3. EMP Management Actions

The management actions aim to avoid potential impacts where possible. Where impacts cannot be avoided, management actions are outlined in order to minimize the significant impacts.

The tables below outline the specific management actions which need to be undertaken during the construction and operational phase of the development to ensure that the site activities are compliant.

Table 2:Construction Phase Management Actions

Impact	Description	Effects	Class	Time frame	Responsibility	Action
Construction Phase-Negative Impacts						
Noise pollution	Noise will be generated through: -Access roads upgrading -Construction of Streets -Construction of drainage services and water reticulation systems. -Construction of buildings -Moving vehicles.	- The health of working personnel could be disturbed. - Passers-by could be disturbed by the noise. - General annoyance -Driving away of local animals species near the project site -Residents nearby will be affected	Environmental	6-8 months	-Environmental Control Officer -Site Manger	- A construction interval will be established, used and adhered to. - Workers will be issued ear plugs to protect them from excessive noise. - Public will be notified through printed timetable stating planned operational activities. - Construction activities will be conducted during daytime. -Site notices will be erected on and around the site notifying visitors and nearby residents of different hazards on site.
Dust Generation	Dust will accumulate because of the land preparation, onsite movements of vehicles and machines, wind blowing on loose material during construction and tipping.	- Can lead to respiratory illnesses especially to those working in the area. - General air pollution. -Nuisance to nearby residents	Environmental	6-8 months	-Environmental Control Officer -Project Manger	- Dust suppression will be done through watering dust source surfaces. -Watering down dusty surfaces, -Ensure that protective equipment such as respirators are distributed to employees, and ensure their use. -Site notices to be erected on and around the site to inform visitors and surrounding residents.

Greenhouse gas emissions	Green House Gasses (GHGs) emissions will be produced from the following activities: • Fuels combustion for transport (construction vehicles and equipment) • Ground excavation releases phosphorus found underground and releases particulate matter into the atmosphere.	-Global climate change - Air pollution	Environmental	Construction phase	-Environmental Control Officer -Project Manager -Department of Environmental Affairs.	-Adopt the use of ethanol blended fuels wherever necessary. -Design an operation system that cuts on fuel consumption. - Use of solar energy system during construction for lighting and other minor energy needs.
Pollution from construction activities	Construction is associated with a lot of raw material and activities that results in pollution	-Chemical pollution from oil spills resulting from the handling of various machineries used during the construction phase -Construction rubble, empty packaging containers/bags and materials remnants. -Construction workers can also pollute the surrounding environs if they are not provided with adequate toilet facilities and a waste management system for domestic waste.	Environmental	Construction phase	-Environmental Control Officer -Project Manger	- Ensure that all waste from construction activities is stored and contained in designated containers and transported to the Tsumeb waste disposal site. -Bulky waste such as building rubbles must be collected and disposed of at any of the various municipal satellite sites or for landfilling. -Adequate mobile toilets must be provided at the construction camps for the use of the workers. -A skip container will be put on site and regularly emptied to handle domestic waste.
Hydrocarbons release into the environment	There will be no storage of oils and fuel on site, however there is risk of spillage of hydrocarbons from vehicles and machinery operations, maintenance through leakages and spillages which	-Washing away of contaminated soils by rains into nearby rivers -Pollution of soil and affecting small living	Environmental	Construction Phase	-Environmental Control Officer -Project Manager	-Implement a maintenance programme to ensure all vehicles, machinery and equipment are and remain in proper working order -Vehicle maintenance should be

	may result in environmental contamination	organisms habituating the soil -Result in possible groundwater pollution. -Possible fire risk on and around the site			-Department of Environmental Affairs.	Conducted in designated areas only, preferably off-site. - Spillages are to be removed from site by a specialist waste removal contractor such a rent a drum. -Waste oil, fuels and other chemicals from drip trays on stationery vehicles and machinery will be disposed of as hazardous waste at a licensed facility by a specialist hazardous waste handler. -Oil residue will be treated with oil absorbent material such as Drizit or bio-remediation and removed to an approved waste disposal site -Spill kits will be easily accessible and workers will be trained in the use thereof. -Staff and contractors will be trained in the handling and storage of oils, fuels, chemicals and other hazardous substances -No bins containing organic solvents such as paint and thinners shall be cleaned on site, unless containers for liquid waste disposal are provided on site.
Safety and Health risks	Construction related Safety and Health hazards	-Injuries to workers such as Occupational dermatitis, slips and fall of humans and objects,	Health and safety	Construction phase	Project manager	- Equip workers with Personal Protective Equipment (PPE), provide trainings on how to effectively use the PPE.

		musculoskeletal disorders, etc.				-Provide platforms for briefings and meetings about possible safety and health hazards in the work place -Provide site signs warning and informing about different hazards on site.
Population Influx	The project will bring in skilled and unskilled workforce into Gobabois area from other places increasing population density in the area.	-There is potential for cultural systems conflict between locals and new people in the area -Potential for rife prostitution and spread of HIV/AIDS and other STDs -Potential for scaring away of local wild animals, poaching and removal of protected indigenous vegetative species	Socio-economic	Construction phase	-Environmental Control Officer -Project Manger	-Train and brief employees to respect local cultures and leaders, -Engage on massive sexual health training and awareness and providing contraceptives such as condoms, as well as provide means counselling for those that are affected by HIV/AIDS and other STDs, - Provide environmental trainings and continue a regular basis briefing the employees about nature conservation (animal and plants), and discourage indiscriminate vegetation clearance.
Land use change	-The existing environment will drastically change from a dormant piece of land to a modernised urban development.	-The area will no longer be suitable for agriculture. -Sudden change in landscape appearances may be unfavourable to the conservatives.	-Social -Terrestrial environment	Permanent	-Environmental Control Officer -Project Manger	-The development should blend into the existing area through designing and colour coding. -Green designing will bring life to the site and blend with surrounding areas.
Extraction of consumption resources	-Construction raw materials such as sand and aggregate come from the extractive industry and it might have detrimental impacts on the environment.	-Sand abstractors may result in degradation from the source areas. -Unsustainable construction practices can cause damage to the ecological and social	-Ecological -Social	Construction phase	-Environmental Control Officer -Site Engineer	-The project manager will only make sure that suppliers of raw materials from the extractive industry have an Environmental Clearance Certificate for their activities.

		environment through noise, driving away animals and destruction of forest resources.				
Resources consumption	The construction industry can be resource intensive, i.e. electrical and water resources.	-The project can result in a strain on available water resources and electricity.	-Socio-economic	Construction phase.	-Environmental Control Officer -Project Manger	-Water saving should be ensured by the site manager i.e. repairing leakages, opening taps only when water is required and recycling of water on site. -Electricity supply can be augmented by sustainable energy such as solar to power things such as boreholes and smaller appliances on site.
Construction Phase-Positive Impacts						
Employment creation	The construction exercise provides an opportunity of outsourcing work	- Improves disposable income to those employed and their immediate families.	Socio-economic	Project life time	-Project Manger	- Work with local leadership (councillor) on acquiring non-skilled labour from the residents.
Business linkages	-Raw materials acquiring and contracting companies provide an opportunity for businesses.	-Local suppliers will be presented with an opportunity to empower their businesses. -Construction workers can be provided with accommodation, food and services from the local community increasing business activities.	-Socio-economic	Construction phase	-Project Manger	-The proponent will outsource most of its materials and services from Tsumeb Town Council..
Infrastructure development	The development presents a unique opportunity for infrastructure development in Tsumeb Town.	-Existing roads will be upgraded which will	-Socio-economic	Construction phase	-Project manager	-Development such as road upgrading will not only be limited up until the

		benefit the local community. -Development of the facilities will also pave way for future developers to grow interests in the area and result in ripple effects and quick growing of the area.				project site, but it will be extended to service other residents as well.

2.4. Operational Phase

The operational phase is the most critical component of project implementation since it is more on a long term, however and it is normally associated with less impacts as compared to construction phase. This phase will comprise of the actual day to day running of the facilities. This phase is expected to last permanently, but with upgrading activities occasionally. There will be several impacts that will occur on a daily basis or other sequential routine. The phase forms the basis of an Environmental Management Plan that is detailed in Chapter and will be followed by the decommissioning phase. The major impacts identified by this study for the operational phase are as detailed in the previous chapter.

Table 3: **Impacts associated with the Operation Phase**

Aspect	Description	Effects	Class	Time Frame	Responsibility	Action
Operation Phase-Positive Impacts						
Water usage	-Water is an important resource that will be used by the residents for domestic purposes, the proposed project will be serviced with water by Tsumeb Town council's water reticulation system.	-Straining local water supply from the municipal council water reticulation system	Environmental	Permanent	Building/Site manager	- Apply a supply and demand model that will be determined by seasonal variations in water availability. -Water saving connections to be put in place. -Regular maintenance of water pipes to avoid leakages and wasteful use of water resources.
Energy usage	-Human settlements consume a lot of electrical energy daily, such that energy requirements will need checking.	-Energy supply through the main grid will be strained	-Socio-economic	Permanent	-Building/Site manager	-The proponent has a plan of using solar energy to power the area, but initially electrical energy will be supplied by Tsumeb Town Council.
Solid Waste	- Domestic and industrial solid waste will be generated by the residents who will settle in this area. It is therefore very important to construct appropriate infrastructure to management thus waste types, etc.	- Eyesore to the environment -Unwanted nutrient disposal into the soils, - Detrimental to livestock health	Environmental Socio-economic	Permanent	-Site manager	-Visual inspections monitoring -All waste will be managed by Tsumeb Town Council, the developer will ensure that domestic waste handling facilities such as dust bins and skip containers are available for all erven. -Waste separation will be provided for to allow for recycling of recyclable materials.

Sewerage and effluent waste	Domestic activities will result in ablution sewer water	-Health hazard	-Environmental -Health	Permanent	Site Manager	-All sewerage waste will be channelled into the Municipal sewer reticulation system.
Population increase	Influx of population into the area.	-Population increase may result in social evils such as prostitution and high crime rate. -Pressure on available social services. -Cultural integration may result in dilution of the local values and cultures. -Possibility for conflicts between new residents, visitors and the residents.	-Socio-economic	Permanent	-Project proponent -Police -Health services	-Engaging actively in sexual health to avoid diseases spreading sexually.
Increased storm water flow	-The area is undeveloped hence most water quickly infiltrates as it reaches the ground, but due to the paving and hard surfaces storm water will increase	-Enhance the chances of flood occurrences -Chances of soil erosion and gully formation will be increased	Environmental	Permanent	-Site Engineer -Environmental Control Officer	-Standard storm water drainage will be part of the water reticulation designs indicating the storm water deposit areas.
Infrastructure hazards	-Infrastructure hazards are potential risks that building pose to its inhabitants, local environment or surrounding residents.	-There is potential for building collapse. -Fire risks and hazards	-Socio-economic -Environmental	Permanent	-Site Engineer -Contractor -Project proponent -Buildings inspectorate -Ministry of Health and Social Services. -Ministry of Safety and security	-Sewerage infrastructure will be regularly monitored and inspected over time. -Standard buildings will be constructed and building inspection will be done by Regional Council officers. -Fire emergency evacuation plan will be put in place to avoid fatalities and injuries in case of an emergency.

Pressure on social amenities	The incoming population to the area will result in pressure on available social amenities.	-There will be increased demand for education and health facilities.	-Social	Permanent	-Project proponent	-The project proponent has left space for possible institutional facilities for education or health, which will also serve the surround communities and further.
Operational Phase-Positive Impacts						
Development of the area	-The project will further develop Tsumeb Town as a growing town.	-Ripple effects will result in construction of supporting infrastructure such as schools, hospitals, car services and supermarkets.	-Economic	Permanent	-Regional council	-The Development Should Be Regulated In Such a way that the local people are empowered and benefit from the development activities.
Revenue generation	The development is bound by to pay tax and rates to Tsumeb Town Council and the government	-The regional council, village council and other service providers will benefit from revenue generation from the development -Business facilities will be paying tax to the government benefiting the country at large.	National	Permanent	-Project proponent -Inland Revenue department	-The project will benefit the locals, authorities and the government if all dues, rates and taxes are adhered to.
Rehabilitation maintenance of the environment.	Currently the project environment is already degraded	-After construction trees will be planted and a green zone created improving the aesthetic value of the environment to a better position than it was before.	Environmental	Permanent	-Building/site manager	-During operation phase tree planting will continue and maintenance of the green zone. -Regular watering of the lawns that will be panted.

2.5. Environmental Monitoring Plan

Monitoring is very important for identifying the success of mitigation measures formulated for the significant impacts identified. Monitoring of activities will identify impacts that have not been foreseen and give enough time to analyse the situation and formulate measures to minimise impacts. Survey records and results must be maintained for these monitoring and inspections, highlighting any problems and the measures taken to address it.

- Prior to site preparation and construction activities, the main contractor should present an environmental monitoring plan (including, *inter alia*, location of construction camp and toilet facilities, location of material storage areas, solid waste management plan, dust control measures, activity schedule, etc.) for review and approval by the Environmental Consultant.

- The developer should present a landscape plan and the trees/vegetation earmarked for protection should be flagged and hoarded by the contractor.

The entity selected to carry out environmental monitoring of the construction works should then prepare an environmental monitoring programme based on the above, the requirements of the EIA, and conditions of the development permit. The major elements of the environmental impact monitoring programme to be implemented during the construction phase of the project are as follows:

i. Site clearance to ensure that trees marked for protection are left untouched and that large areas of soil are not left exposed and uncovered for extended periods of time.
ii. Site drainage and surface runoff, especially during and shortly after major rainfall events, to ensure there is no flooding, ponding and runoff of surface water Compliance of construction works with site management and landscape plans.
iii. Ensure transportation of earth materials is done by covered trucks and from approved sites.
iv. The contractor must immediately and completely clean up spills of materials in public areas.
v. Solid waste disposal practices to ensure appropriate on-site management and final disposal at approved dump.

3. CHAPTER FOUR: CONCLUSION AND RECOMMENDATIONS

The environmental impact assessment process for the proposed township establishment was conducted in accordance to the Environmental Management Act 2007 and EMA Regulation 2012. Further consideration was given to relevant legislation throughout the entire process to ensure a successful assessment process.

Impacts likely to occur during project phases (construction and operation) were assessed depicting a positive outlook despite limited details of the magnitude of the proposed development. Based on the assessment, the overall project is less damaging to the environment demonstrating high job creation opportunities and community development. Impacts with negative effects were also identified and summarized in a form of environmental management plan to ensure sustainable implementation.

The site has access to services such as electricity and roads for accessibility. Adding on the site has minimal vegetation such that no trees will be removed during the construction phase. It is important that the proponent observe and maintain accountability to both socio-economic and environmental sensitive activities from the project, such that the project is harmonized with policy, regulations, administrative frameworks and social interface with the public as proposed in the environmental management plan. Failure to observe these measures will significantly affect the local environment and lead to non-compliance. Therefore, implementation environmental protection measures should be executed in consultation with the key stakeholders.

EnviroPlan hereby recommends that MEFT: DEAF grant the environmental clearance certificate for the following:

- ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED PERMANENT CLOSURE OF ERF 586 TSUMEB, EXTENSION 4 – OSHIKOTO REGION NAMIBIA

The project will have to be approved, under the condition of full implementation of this EMP.

References

Directorate of Environmental Affairs. (2002) Ministry of Environment and Tourism, Atlas of Namibia Project.

Ministry of Environment and Tourism. (1994) National Environmental Assessment Policy.

Ministry of Environment and Tourism. (2002) National Environmental Management Bill.

Ruppel and Ruppel schlichting (eds) (2011). Environmental Law and Policy in Namibia

Simmons, R.E (1998a). Important Bird Areas in Namibia. In: Barnard,P. (ed). Biological Diversity in Namibia: a country study. Windhoek: Namibia Biodiversity Task Force.

Lindback, E. & Murray, J. (1996).Shrimp Farming in the El Oro District. Agricultural Institute, Ecuador.

Middler, S. (1998).Toxicological Effects of Methylmercury.National Academy Press, Washington D.C.

Middler, S. (2001).The chemistry of water.Cambridge United States of America.

UNEP. (2002). Tools and Approaches for policy making in Environmental Management and public Health: Retrieved 9 April 2009 from http://www.whoafro.unep.Inte/heag2008/docsenNew%20and%20emerging%threats.pdf.