

ENVIRONMENTAL IMPACT ASSESSMENT FOR FUEL STORAGE AND HANDLING FACILITIES ON ERF 1876, LUDERITZ, IIKARAS REGION

2023

App - 231121002500

GREEN EARTH Environmental Consultants

Project Name:	ENVIRONMENTAL IMPACT ASSESSMENT FOR FUEL STORAGE AND HANDLING FACILITIES ON ERF 1876, LUDERITZ, IIKARAS REGION	
The Proponent:	Bochmus Oil & Fuel Supplies PO Box 2788 Walvis Bay	
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Release Date:	November 2023	
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EXECUTIVE SUMMARY

Green Earth Environmental Consultants were appointed by the Proponent, Bachmus Oil & Fuel Supplies, to conduct an Environmental Impact Assessment to obtain an Environmental Clearance for fuel storage and handling facilities on Erf 1876, Benguela Extension 3, Lüderitz, IIKaras Region. The land within the immediate vicinity of the project site is predominantly characterized by open land and industrial uses. In terms of the Regulations of the Environmental Management Act (No 7 of 2007) an Environmental Impact Assessment must be done to address the following 'Listed Activities':

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

- The construction of facilities for the refining of gas, oil and petroleum products.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

- The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.

Impact on environment	Nature of impact
More efficient and intensive use of land.	Positive for Lüderitz and Namibia in general.
Creation of employment and transfer of skills.	Positive as employment will be created during operation.
Impact on utilization of municipal and other infrastructure and facilities.	Positive due to the better utilization of existing infrastructure.
There will be an impact on traffic.	Negative during operational as it will result in the increase in traffic and on the main roads in the area.
The creation of noise.	On par with the noise levels associated with the neighbouring uses.
Possible impact on cultural/heritage aspects.	No items of archeologic value or graves were observed during the site visit which means the impact will be low. If any items or graves are found, the impact will be high and irreversible.
Impact on fauna and flora.	The vegetation on the site shows signs of human intervention like vehicle tracks, dumping of building rubble and household refuse. The site does not have a large amount of vegetation.
There might be a possible visual impact.	New infrastructure will be constructed

	on the site.
Impact on groundwater, surface water and	The impact will be negative in case of
soil.	spilling of hazardous materials during
	construction and operation. The facility
	will be linked with the town's sewer
	system.
Impact on health and safety.	Low if mitigated during operations.

The environmental impacts during the operational phase of the proposed project:

IMPACTS DURING OPERATIONAL PHASE			
Aspect	Impact Type	Significance of impacts Unmitigated	Significance of impacts Mitigated
Ecology Impacts	-	М	L
Dust and Air Quality	-	М	L
Groundwater Contamination	-	М	L
Waste Generation	-	М	L
Failure of Reticulation Pipeline	-	М	L
Fires and Explosions	-	М	Ĺ
Safety and Security	-	М	L

IMPACT EVALUATION CRITERION (DEAT 2006):				
Criteria	Rating (Severity)			
Impact Type	+	Positive		
	0	No Impact		
	-	Negative		
Significance of	L	Low (Little or no impact)		
impacts	М	Medium (Manageable impacts)		
	Н	High (Adverse impact)		

Limited negative impacts on the vegetation and the natural drainage systems are expected. The noise and dust during construction and operation are in line with the activities from the neighbouring erven. However, mitigation measures will be provided that can control the extent, intensity, and frequency of these named impacts in order not to have substantial negative effects or results.

The type of activities that will be carried out on the site will not negatively affect the amenity of the locality and the activities do not adversely affect the environmental quality of the neighbouring erven or areas. None of the potential impacts identified are regarded as having a significant impact to the extent that the proposed project should not be allowed. However, the operational activities further on need to be controlled and monitored by the assigned subcontractors and the proponent.

The Environmental Impact Assessment which follows upon this paragraph was conducted in accordance with the guidelines and stipulations of the Environmental Management Act (No 7 of 2007) meaning that all possible impacts have been

considered and the details are presented in the report. Based upon the conclusions and recommendations of the Environmental Impact Assessment Report and Environmental Management Plan following this paragraph, the Environmental Commissioner of the Ministry of Environment, Forestry and Tourism is herewith requested to:

- 1. Accept the Environmental Impact Assessment;
- 2. Approve the Environmental Management Plan;
- 3. Issue an Environmental Clearance for fuel storage and handling facilities on Erf 1876, Lüderitz, Benguela Extension 3, IIKaras Region and for the following "listed activities":

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

- The construction of facilities for the refining of gas, oil and petroleum products.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

- The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.

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LIST OF ABBREVIATIONS

CAN	Central Area of Namibia
EC	Environmental Clearance
ECO	Environment Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
SQM	Square Meters

1. INTRODUCTION

The Lüderitz Town Council, per Council Resolution C61/18/07/2023, approved the sale of Erf 1876, Benguela Extension 3, Lüderitz to the Proponent, Bachmus Oil & Fuel Supplies (Pty) Ltd. They intent to use Erf 1876 for a wholesale fuel depot for the storage, handling and selling of fuel and oil products to their customers. There will be 2 X 85 000 litre horizontal above ground storage tanks with supporting infrastructure including dispensing points, parking areas for vehicles, offices, storage areas for batteries and lubricants, client convenience facilities, offices, and ablution facilities.

The Proponent, Bachmus Oil & Fuel Supplies, appointed Green Earth Environmental Consultants to conduct an Environmental Impact Assessment and develop an Environmental Management Plan to obtain an Environmental Clearance for fuel storage and handling facilities on Erf 1876, Lüderitz, Benguela Extension 3, IIKaras Region.

The Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) stipulates that an Environmental Impact Assessment (EIA) report and management plan is required as the following 'Listed Activities' are involved:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

- The construction of facilities for the refining of gas, oil and petroleum products.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

- The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.

The Environmental Impact Assessment below contains information on the proposed project and the surrounding areas, the proposed activities, the applicable legislation to the study conducted, the methodology that was followed, the public consultation that was conducted, and the receiving environment's sensitivity and any potential ecological, environmental, and social impacts.

2. TERMS OF REFERENCE

To be able to implement the proposed project, an Environmental Impact Assessment and Environmental Clearance is required. For this environmental impact exercise, Green Earth Environmental Consultants followed the terms of reference as stipulated under the Environmental Management Act. The aim of the environmental impact assessment was:

- To ascertain existing environmental conditions on the site to determine its environmental sensitivity.
- To inform I&APs and relevant authorities of the details of the proposed development and to provide them with an opportunity to raise issues and concerns.
- To assess the significance of issues and concerns raised.
- To compile a report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist investigations required.
- To outline management guidelines in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- To comply with Namibia's Environmental Management Act (2007) and its regulations (2012).

The tasks that were undertaken for the Environmental Impact Assessment included the evaluation of the following: climate, water (hydrology), vegetation, geology, soils, socio economic impact, cultural heritage, groundwater, sedimentation, erosion, biodiversity, sense of place, socio-economic environment, health, safety and traffic.

The EIA and EMP from the assessment will be submitted to the Environmental Commissioner for consideration. The Environmental Clearance will only be obtained (from the DEA) once the EIA and EMP has been examined and approved for the listed activity.

The public consultation process as per the guidelines of the Act has been followed. The methods that were used to assess the environmental issues and alternatives included the collection of data on the project site and surrounding area, info obtained from the proponent and the Ministry of Environment, Forestry and Tourism and identified and affected stakeholders. Consequences of impacts were determined in five categories: nature of impact, expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity.

All other permits, licenses or certificates that are further on required for the operation of the proposed project still needs to be applied for by the proponent.

3. NEED, DESIRABILITY AND MOTIVATION

Bachmus Oil & Fuel Supplies (Proprietary) Limited is a wholesale supplier and a household name for lubricant and fuel in the marine and industrial sectors. Bachmus has depots across Namibia offering a wide selection of multi-brand oils and fuel supply solutions. They identified Lüderitz for the construction and operation of a fuel storage and handling facility. They visited the town and consulted with Council to identify and obtain a site for the proposed facility. From these consultations, Erf 1876, Lüderitz was identified as of the ideal size, locality and with safe and good access for the construction and operation of the infrastructure.

<u>Need</u> – More and more exporters and importers, mining companies and others from South Africa, especially the Northen Cape make use of the Lüderitz harbour due to its strategic location, good rail and road access and efficiency in the handling of goods. This resulted in a significant increase in road freight operators operating in and out of Lüderitz daily. They acquired Erf 1876, Lüderitz with the intension of

setting up a wholesale fuel depot to be able to service their customers who pass through the Town. According to their feasibility study there is a need for an additional wholesale fuel facility in the Town to improve service levels to passing through traffic.

Desirability – Erf 1876, Lüderitz is 6550m² in extent and zoned 'general industrial' as per the stipulations of the Lüderitz Town Planning Scheme. The erf is gradually sloping in a southeasterly direction and is located close to the B4 Road linking the Town of Lüderitz with the rest of Namibia and South Africa. The Erf has access from an internal municipal street. The site is desirable for the proposed activity due to the following reasons:

- It is large enough to accommodate the facilities of a large wholesale fuel seller.
- It is located close to the main road and highly visible with good and safe access.
- The zoning of the erf allows the proposed activity.
- The site has a gradual southeasterly gradient, but the topography does not prevent the development of a safe site for the placement of the storage and handling facilities and the maneuvering and parking of large vehicles.
- The site is connected to municipal bulk services.
- The site is also surrounded by other industrial and business uses and thus suited for the proposed activity.

It is believed that the proposed development will not have a negative impact on the receiving environment. And according to the information mentioned above, it is believed that there is a need and desirability for the project.

Determining what the impact of the operations would be are broken down into different categories and environmental aspects and dealt with in the Environmental Management Plan (EMP). As per the ISO 14001 definition: *an environmental aspect is an element of an organization's activities, products and/or services that can interact with the environment to cause an environmental impact e.g., land degradation or land deterioration among others, that will cause harm to the environment.*

All concerns and potential impacts raised during the public participation process and consultative meetings were evaluated. Predictions were made with respect to their magnitude and an assessment of their significance was made according to the following criteria:

The Nature of the activity: The possible impacts that may occur are that water will be used in the operational phase, wastewater will be produced that will be handled either by the Town Council or by the proponent, land will be used for the proposed activities, a sewage system will be used, and general construction activities will take place, namely the building of infrastructure.

The Probability of the impacts to occur: The probability of the above-named impacts to occur and have a negative or harmful impact on the environment and the community is small since the Environmental Management Plan will also guide these activities. Water will still be used, and wastewater produced, however guidelines will be set that will ensure the impact is minimum.

The Extent of area that the project will affect: The specific project will most likely only have a small impact on the proposed project site itself and not on the surrounding or neighbouring land except for noise, traffic, roads, electricity and dust and there may be a visual impact because of the size of the proposed development. Therefore, the extent that the project will have a negative impact on is not extensive.

The Duration of the project: The duration of the project is uncertain. Water will still be used, and waste produced on a continuous basis and the structures that were constructed will remain and may be visually unpleasing to surroundings.

The Intensity of the project: The intensity of the project is mostly limited to the site however for the above-named items/processes where the intensity of the project will be felt outside the borders of the project site.

According to the information that was present while conducting the Environmental Impact Assessment for the construction and operation of the project, no high-risk impacts were identified and therefore it is believed that the operations will be feasible in the short and long run. Most of the impacts identified were characterized as being of a low impact on the receiving and surrounding environment and with mitigation measures followed, the impacts will be of minimum significance or avoided.

4. BACKGROUND INFORMATION ON PROJECT

4.1. SITE INFORMATION

4.1.1.LOCALITY, ZONING AND SIZE OF THE SITE

Erf 1876, Lüderitz, Benguela Extension 3, IIKaras Region is located in the southeastern side of the town directly north of the B4 Road leading into the Town of Lüderitz, west of the Natis Offices and Vehicle Testing Centre. See below Google images and maps showing the locality of the Erf:



Figure 1: Google image showing the locality of the Erf 1876, Lüderitz

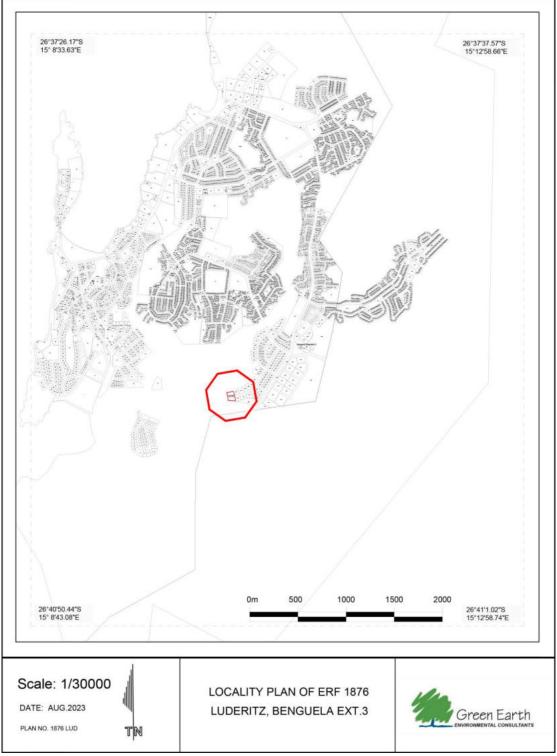


Figure 2: Plan showing the locality of Erf 1876, Benguela Extension 3, Lüderitz

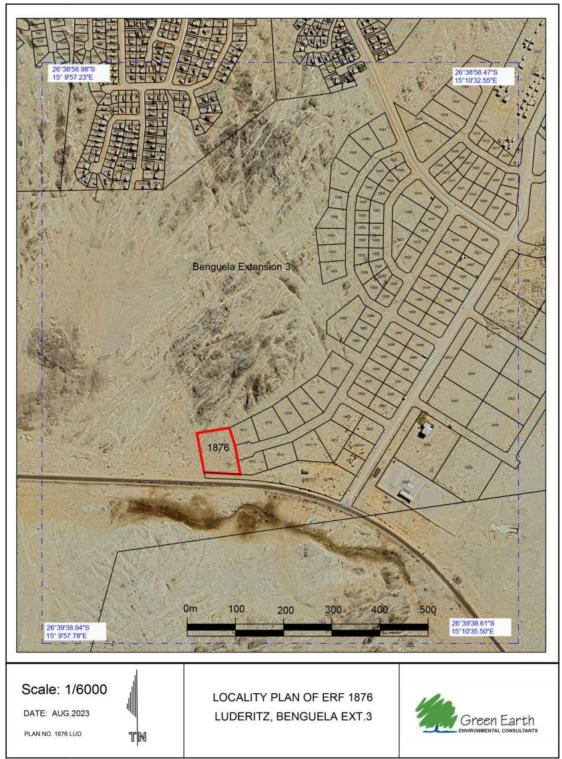


Figure 3: Photo showing the locality of Erf 1876, Benguela Extension 3, Lüderitz

Erf 1876 is 6550m² in extent and zoned 'general industrial'. It is accessed from a culde-sac located east of the Erf. The erf is currently vacant and undeveloped. The street access is shown on the photo above.

4.1.2.TOPOGRAPHY AND VEGETATION

The erf is sloping in a south westerly direction as can be seen on the contour map below. The slope is gradual although levelling and landscaping will be required to allow the save placement of the storage and handling facilities and supporting infrastructure and to create safe driveways and parking areas for the vehicles visiting the site. The small surface drainage system can be observed on the Erf which is collecting water from the higher lying area north of the erf.

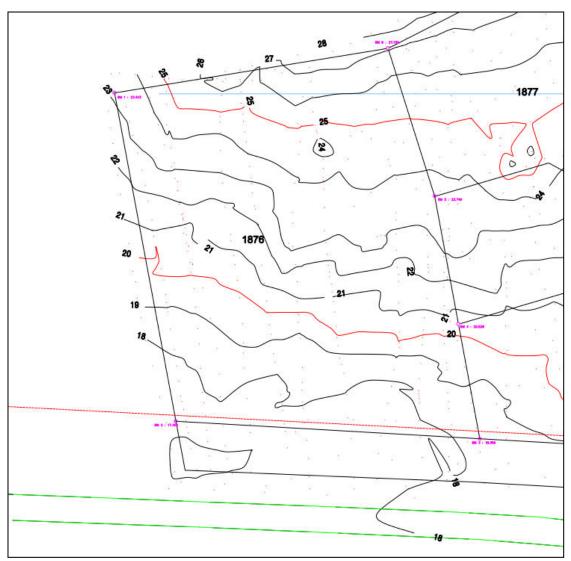


Figure 4: Map showing topography of Erf 1876, Benguela Extension 3, Lüderitz

Erf 1876 shows rocky outcrops and some small shrubs and bushes as vegetation. The vegetation on the site shows signs of human intervention like vehicle tracks, dumping of building rubble and household refuse. See photos below showing the Erf's surface:



Figure 5: Photos showing the rocky outcrops and vegetation on Erf 2050 GREEN EARTH Environmental Consultants

4.1.3. SURROUNDING USES

The Erven in the neighbourhood of Erf 1876 are zoned 'industrial' but are not developed yet. Erf 2050 directly south of Erf 1876 is reserved as a 'public open space' and creates a buffer between the Trunk Road and Erf 1876 and also accommodates a municipal waterline, pumpstation and powerline. Erf 2047 located to the east of Erf 1876 accommodates the Natis Offices and Test Terrain.

See below a *Map* showing the zoning of Erf 1876, Benguela Extension 3, Lüderitz as well as that of the zonings of the surrounding erven:

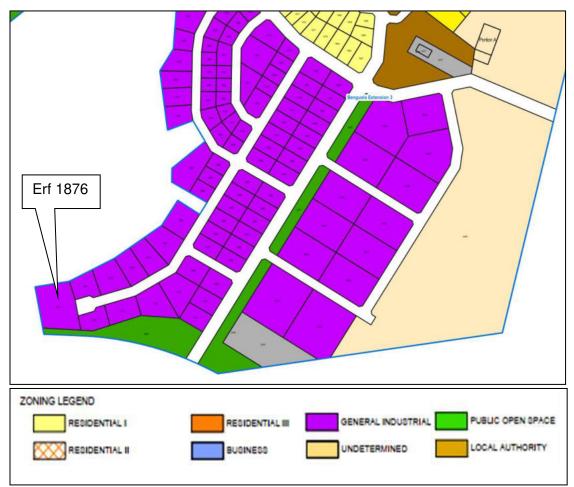


Figure 6: Zoning of the erven surrounding Erf 1876, Benguela Extension 3, Lüderitz.

4.2.THE PROPOSED PROJECT

The Lüderitz Town Council, per Council Resolution C61/18/07/2023, approved the sale of Erf 1876, Benguela Extension 3, Lüderitz to Bachmus Oil & Fuel Supplies (Pty) Ltd. Bachmus Oil & Fuel Supplies (Proprietary) Limited obtained a wholesale license to sell diesel and lubricants to wholesale customers in Lüderitz. The Proponent already have depots in Walvis Bay, Windhoek, Swakopmund, Ondangwa, and most recently in Karibib. A new depot will also be constructed in Katima Mulilo soon.

As part of their expansion strategy, the Proponent intends to construct and operate a new warehouse, tank farm and customer own collection fuel and lubricant depot on GREEN EARTH Environmental Consultants 17 Erf 1876, Benguela Extension 3, Lüderitz. The proposed facilities to be constructed on site will be the following:

- 2 X 83 000 litre above ground horizontal tanks.
- Supporting infrastructure including:
 - o dispensing points
 - o parking areas for vehicles
 - o fire protection equipment and backup water
 - \circ offices
 - o storage areas for batteries and lubricants
 - o a tuck/convenience shop
 - o ablution facilities
 - spill containment infrastructure, with an oil/water separator was installed to protect against spillages
- A concrete slab will be constructed around the island.
- The refuelling area will be covered by an overhead canopy.
- The entire driveway area, the area surrounding the dispensing points and area below the canopy will be raised by land infill and sloped and landscaped and provided with proper drainage in order not to be subject to storm water damage/flooding.
- The site will be operating 24h per day.

The 'dangerous/noxious goods' to be handled and stored on the site include diesel, oil, truck batteries and lubricants.

It is estimated that there will be five (5) staff members from the beginning of the project however it is intended to appoint more staff later:

- 2 x fuel attendees
- 1 x sales counter staff
- 1 x storeman
- 1 x depot/sales manager

The operational activities on the site are:

- Entrance and exit of heavy and light vehicles to and from the facility.
- Circulation and parking of vehicles on the site, at the filling points, warehouses, the kiosk and offices.
- Movement of people on the site, including pedestrians visiting the kiosk and offices.
- Filling trucks with fuel.
- Filling of fuel into the aboveground tanks by direct closed transfer.
- Delivery of supplies for the site.
- Administrative activities related to the businesses.

See below the site plan showing the placement of the tanks, dispensing equipment, staff and customer amenities, office and storage, vehicle parking areas and sales area. Dedicated firefighting equipment including onsite water storage tanks and fire pump station will also be installed on the site.

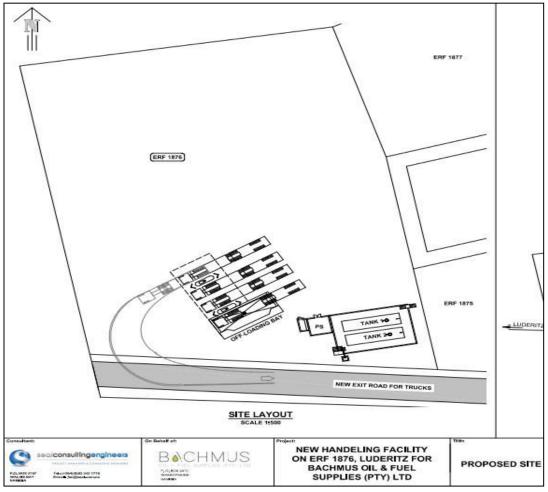
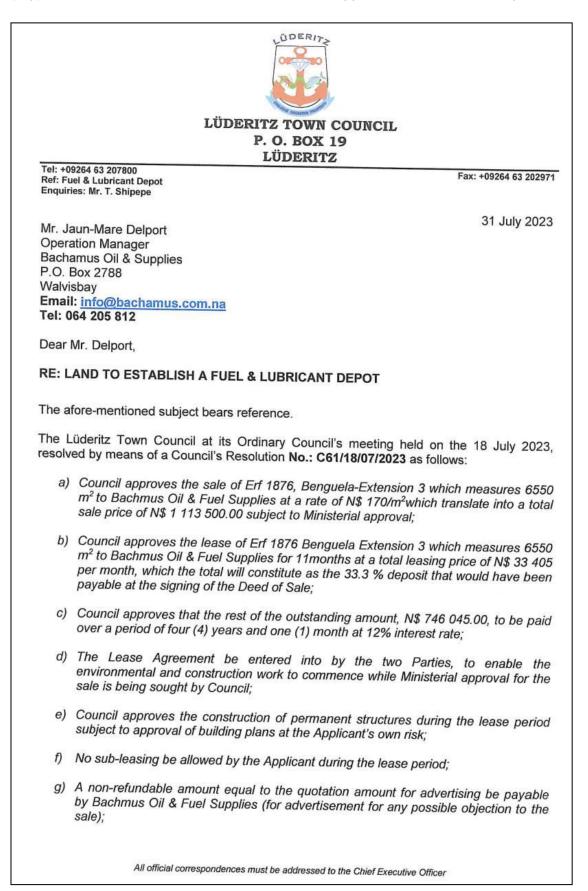


Figure 5: Proposed site plan showing the facilities on Erf 1876, Lüderitz

5. APPROVALS OBTAINED

The Lüderitz Town Council, per Council Resolution C61/18/07/2023, approved the sale of Erf 1876, Benguela Extension 3, Lüderitz to Bachmus Oil & Fuel Supplies (Pty) Ltd. See below the Lüderitz Town Council's approval letter dated 31 July 2023:



h) Council approves for Bachmus Oil & Fuel Suppliesto be responsible for all the environmental planning cost, storm water management cost, service connection and upgrading cost pertaining to Erf 1876 Benguela Extension 3;

- Council grants approval for Administration to place notices of Council's intention to i) sell Erf 1876 Benguela Extension 3 in two newspapers for objections purposes in terms of Section 63 (2) of the Local Authorities Act, Act 23 of 1992, as amended;
- Applicant be informed that building plans be submitted to Technical Department for j) evaluation and approval before commencements of any building activities;
- k) The Transfer cost and any other legal fees be for the account of Bachmus Oil & Fuel Supplies;
- A minimum building clause of four times the valuation of the Erf be placed on the 1) main building excluding the outbuilding.
- m) The Erf shall only be used for purposes which are in accordance with and subject to the provision of the Lüderitz Zoning Scheme as amended.
- n) The Purchaser will be responsible for payment of assessment rates and minimum service charges from date of signature of the Deed of Sale.

Luderitz Town Council

Luderitz

2023 -07- 3 1

Tel: 063 207 800 / 083 207 801 Fax: 063 202 971 / 063 202 047

P.O. Box 19, Ludaritz

Your good institution has fourteen (14) working days to confirm the acceptance of the Council's offer hence failure to respond within the prescribe days, will deem the offer automatically being reverted back to Lüderitz Town Council.

I hope it's in order.

Yours sincerely,

Mr. Otto K. Shipanga Acting Chief Executive Officer Lüderitz Town Council

Cc: All HODs All Hon. Councillors Ms. Helena Thomas- Town Planning Officer Mr. Jonas Mahalelo- Control Officer: Properties Mr. Elwin IGaoseb- PRO

All official correspondences must be addressed to the Chief Executive Officer

The following approval was obtained from the Ministry of Mines and Energy:

MINIST	TRY OF MINES AND ENERGY	r
PETROLEUM	PRODUCTS AND ENERGY A PRODUCTS REGULATION	CT, 1990 5 (2000)
	WHOLESALE LICENCE	
	[Regulation 12(4)]	
WHOLESA	LE LICENCE	Licence No. W/4/2005
Name of licence-holder	Bachmus Oil & Fuel S	
Address of licence-holder	Physical Address	Postal address
	12 Papegeien Road Hochland Park, Windhoek	Box 5833 Windhoek
Location of storage facilities (if necessary attach separate page)	11°44'00'' E / 17°14'41'' S (North 29°00' S / 016°02' E / 29°20' S / 015 29°39' S / 015°00' E/ 30°00' S / 014'	5°30' E (South – EEZ)
Conditions applicable to lic	d special conditions applicable to	licence.
Date of issue of licence	29 Septeml	
Issued by the Minister of Mi 29 September 2005	nes and Energy in terms of regula at Windhoek	and have a second and a second
	Sector Se	ENERGY
	OFFICE OF	(for office use)
A	2005	109-29
Agea	PRIVAT	NDHOEK
Minister: Mines and Energy	in a community of the second s	FICIAL

CONDITIONS APPLICABLE TO WHOLESALE LICENCE

General Conditions

- 1. The wholesale licence-holder must at all times comply with the Petroleum Products and Energy Act, the Petroleum Products Regulations (2000) and all other applicable laws, including laws relating to labour, safety, hazardous substances, security, health and environment.
- 2. The wholesale licence-holder may sell fuel only in bulk quantities.
- 3. If the wholesale licence-holder sells fuel to any person other than a retail licence-holder, certificate-holder, Government institution, local authority or regional council, the provisions of regulation 8 of the Petroleum Products Regulations (2000), apply with the necessary changes.
- The fuel wholesale licence holder is required to register with Customs & Excise for special storage 4 warehouses.
- 5. The sale of fuel to a person referred to in condition 3 may not be made from any other place than from a dispensing point situated at the relevant premises of the wholesaler.
- 6. All relevant import and export and wholesale sale, of fuel, approvals and permits as required under the Petroleum Products and Energy Act or any other applicable law must be obtained prior to any import into, export from or wholesale sale of fuel in Namibia.
- The wholesale licence-holder must keep such records and must submit such information to the 7. Minister as are required under the Petroleum Products Regulations (2000).
- Petroleum products imported or distributed must comply with approved specifications as made 8. applicable by or under the Petroleum Products Regulations (2000).
- The wholesale licence-holder may not abandon storage facilities otherwise than in accordance 9. with the Petroleum Products Regulations (2000).
- 10. All applicable duties, levies and taxes must be paid to the relevant authorities and bodies.
- 11. The wholesale licence-holder must inform the Minister in writing of any changes to be effected to storage facilities prior to effecting such changes.
- 12. The wholesale licence-holder must inform the Minister as soon as possible of any dangerous situation arising from the conduct of activities authorised under the licence, including the steps taken or proposed to be taken by the licence-holder to rectify such situation or to eliminate or minimise the danger arising from such situation.
- 13. The wholesale licence-holder must comply with all provisions of the Petroleum Products Regulations relating to petroleum product spills.

Special Conditions

- 1. This wholesale licence is only valid if the Ministry of Environment & Tourism has issued an environmental clearance certificate.
- All offshore bunker transfers must be done in full compliance of the environmental conditions 2. set by the Ministry of Environment & Tourism.
- To adhere to certain restrictions related to offshore bunker transfers laid down by the 3. Ministry of Works, Transport & Communication to prevent pollution and avoid congestion of vessels.
- All volumes bunkered must be reported to the Ministry of Mines and Energy each time a offshore bunker transfer has occurred and an audited annual summary of all volumes bunkered from this facility must be handed in two weeks after the year has ended.
- 5. According to the amended Petroleum Products Regulations the Minister may change these conditions retroactively at any time

The construction and operation of the proposed fuel and lubricant depot is subject to obtaining an Environmental Clearance Certificate from the Ministry of Environment, Forestry and Tourism.

6. BULK SERVICES AND INFRASTRUCTURE

The following bulk services will be provided on the site:

6.1.ACCESS REQUIREMENTS

Erf 1876, Lüderitz, Benguela Extension 3 is located next to the B4 Road leading into the Town of Lüderitz but will obtain access from internal streets that will be created.

6.2.WATER SUPPLY

Water to the Erf will be obtained from the Lüderitz water reticulation network.

6.3. ELECTRICITY

Electricity will be obtained from the Lüderitz electrical supply grid.

6.4.SEWAGE DISPOSAL

Only household sewer will be generated on site from toilet and kitchen facilities. This sewer will be connected to the sewer system of Lüderitz.

6.5.SOLID WASTE

The solid waste generated on the site is collected by the Lüderitz Town Council through their weekly waste collection and management system and disposed of at their approved landfill site.

6.6.FIRE PROTECTION

The Proponent will install the necessary fire protection infrastructure / extinguishers as per the requirements of Lüderitz Town Council.

6.7.STORMWATER

The natural flow of storm water and drainage will be accommodated in the planning and construction of the buildings.

7. APPROACH TO THE STUDY

The assessment included the following activities:

a) Desktop sensitivity assessment

Literature, legislation and guidance documents related to the natural environment and land use activities available on the site and area in general were reviewed to determine potential environmental issues and concerns.

b) Site assessment (site visit)

The proposed project site and the immediate neighbourhood and surrounding area were assessed through several site visits to investigate the environmental parameters on site to enable further understanding of the potential impacts on site.

c) Public participation

The public was invited to give input, comments and opinions regarding the proposed project. Notices were placed in the Namibian and New Era (see Appendix) on two consecutive weeks (25 October and 1 November 2023) inviting public participation and comments on the proposed project. A notice was also placed on the site and on the Notice Board of the Town Council of Lüderitz. The closing date for any questions, comments, inputs or information was 17 November 2023.

d) Scoping

Based on the desk top study, site visit and public participation, the environmental impacts were determined in five categories: nature of project, expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity. The findings of the scoping have been incorporated in the environmental impact assessment report below.

e) Environmental Management Plan (EMP)

To minimize the impact on the environment, mitigation measures have been identified to be implemented during planning, construction, and implementation. These measures have been included in the Environmental Management Plan to guide the planning, construction and operation of the development which can also be used by the relevant authorities to ensure that the project is planned, developed, and operated with the minimum impact on the environment.

8. ASSUMPTIONS AND LIMITATIONS

It is assumed that the information provided by the proponent (Bachmus Oil & Fuel Supplies) and Lüderitz Town Council is accurate. Bachmus Oil & Fuel Supplies together with officials of Lüderitz Town Council investigated various sites for the proposed project and concluded that Erf 1876, Lüderitz is the best site for the proposed project. Lüderitz Town Council approved the sale of this erf to Bachmus Oil & Fuel Supplies. Therefore, no alternative erven for the proposed project were examined. The site was visited several times and any happenings after this are not mentioned in this report. (The assessment was based on the prevailing environmental conditions and not on future happenings on the site.) However, it is assumed that there will be no significant changes to the proposed project, and the environment will not adversely be affected between the compilation of the assessment and the implementation of the proposed activities.

9. ADMINISTRATIVE, LEGAL & POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programs and policies deemed to have adverse impacts on the environment require

an EIA according to Namibian legislation. The administrative, legal and policy requirements to be considered during the Environmental Assessment are the following:

- The Namibian Constitution
- The Environmental Management Act (No. 7 of 2007)
- The Lüderitz Town Planning Amendment Scheme No. 5 (May 2003)
- Other Laws, Acts, Regulations and Policies

THE NAMIBIAN CONSTITUTION

Article 95 of Namibia's constitution provides that:

"The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

Management 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.

Article 144 of the Namibian Constitution deals with environmental law and it states:

"Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia". This article incorporates international law, if it conforms to the Constitution, automatically as "law of the land". These include international agreements, conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements (Ruppel & Ruppel-Schlichting, 2013). It is therefore important that the international agreements and conventions are considered (see section 4.9).

In considering these environmental rights, Bachmus Oil & Fuel Supplies (the Proponent) should consider the following in devising an action plan in response to these articles:

- Implement a "zero-harm" policy at that would guide decisions.
- Ensure that no management practice or decision result in the degradation of future natural resources.
- Take a decision on how this part of the Constitution will be implemented as part of the Proponent's Environmental Control System (ECS).

ENVIRONMENTAL MANAGEMENT ACT (NO. 7 OF 2007)

The Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007) that came into effect in 2012 requires/recommends that an Environmental Impact Assessment and

an Environmental Management Plan (EMP) be conducted for the following listed activities to obtain an Environmental Clearance Certificate:

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

- The construction of facilities for the refining of gas, oil and petroleum products.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

- The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.

Cumulative impacts associated with the development must be included as well as public consultation. The Act further requires all major industries and mines to prepare waste management plans and present these to the local authorities for approval.

The Act, Regulations, Procedures and Guidelines have integrated the following sustainability principles. These need to be given due consideration, particularly to achieve proper waste management and pollution control:

Cradle to Grave Responsibility

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

Precautionary Principle

It provides that if there is any doubt about the effects of a potentially polluting activity, a cautious approach must be adopted.

The Polluter Pays Principle

A person who generates waste or causes pollution must, 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 must have access to information and the right to participate in decisions making.

CONCLUSION AND IMPACT

Some of the surrounding erven have been cleared and structures have been constructed on the sites or are in the process of being constructed. The proposed activity will thus fit in with the surrounding activities and not have a negative impact on the prevailing environment. It will be ensured that all protected plant species will be retained where possible.

THE LÜDERITZ TOWN PLANNING AMENDMENT SCHEME NO. 5 (MAY 2003)

The area to which this Scheme applies is the area as indicated on the scheme maps. The general purpose of the Scheme is the co-ordinated and harmonious development of the area of Lüderitz including where necessary the redevelopment of any part thereof which has already been subdivided and build upon, in such a way as will most effectively tend to promote health, safety, order, amenity, convenience and general welfare as well as efficiency and economy and conservation of the existing character of the town, in the process of such development.

Erf 1876, Lüderitz, Benguela Extension 3, IIKaras Region is zoned 'general industrial'. See below the zoning map:



Figure 6: Zoning Map

The Lüderitz Town Planning Scheme lists the uses allowed under the zoning 'general industrial' in *Table B* of the Town Planning Scheme. See below extract of *Table B* showing the activities allowed. This confirms that the proposed use for a wholesale fuel depot is allowed under the zoning 'general industrial'.

G	General Industrial	Red purple-fill	Industrial building, scrap yard, warehouse, public garage, building yard, dry cleaner, launderette, light industry, place of entertainment, truck port	Service stations, business building, place of instruction, noxious industry, gambling house
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Figure 7: Table B

CONCLUSION AND IMPACT

The proposed project has been considered under the stipulations of the Lüderitz Town Planning Scheme and the Local Authorities Act. The project is in line with the Lüderitz Town Planning Scheme and will not have a negative impact on the surrounding environment. Council approved the sale of Erf 1876, Benguela Extension 3, Lüderitz to be used as intended and is thus supporting the project and use.

OTHER LAWS, ACTS, REGULATIONS AND POLICIES

The laws, acts, regulations, and policies listed below have also been considered during the Environmental Assessment.

Table 1: Laws. Acts, Regulations and Policies

	Acts, Regulations and Policies	
	Laws, Acts, Regulations & Policie	
Electricity Act	In accordance with the Electricity	The Proponent must abide to
(No. 4 of 2007)	Act (No. 4 of 2007) which provides	the Electricity Act.
	for the establishment of the	
	Electricity Control Board and	
	provide for its powers and	
	functions; to provide for the	
	requirements and conditions for	
	obtaining licenses for the provision	
	of electricity; to provide for the	
	powers and obligations of	
	licenses; and to provide for	
	incidental matters: the necessary	
	permits and licenses will be	
	obtained.	
Pollution	The Pollution Control and Waste	The Proponent must adhere
Control and	Management Bill is currently in	to the Pollution Control and
Waste	preparation and is therefore	Waste Management Bill.
Management	included as a guideline only. Of	
Bill (guideline	reference to the mining, Parts 2, 7	
only)	and 8 apply. Part 2 provides 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 license issued under	
	section 23. Part 2 also further	

	www.idea faw wwaaaduwaa ta ba	
	provides for procedures to be followed in license application,	
	fees to be paid and required terms	
	of conditions for air pollution	
	licenses. Part 7 states 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. 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.	
	Part 8 provides for emergency	
	preparedness by the person	
	handling hazardous substances,	
	through emergency response	
	plans.	
Water	The Water Resources	The Act must be consulted.
Resources	Management Act (No. 11 of	Fresh water abstraction and
Management	2013) stipulates conditions that	waste-water discharge
		Ŭ
Act	ensure effluent that is produced to	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There	Ŭ
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water	permits should be obtained
Act	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a	permits should be obtained
	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner.	permits should be obtained when required.
Act Solid and Hazardous	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a	permits should be obtained when required. The Proponent must abide to
Solid and	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and	permits should be obtained when required.
Solid and Hazardous	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business	permits should be obtained when required. The Proponent must abide to the solid waste management
Solid and Hazardous Waste	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business	permits should be obtained when required. The Proponent must abide to the solid waste management
Solid and Hazardous Waste Management	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business	permits should be obtained when required. The Proponent must abide to the solid waste management
Solid and Hazardous Waste Management Regulations:	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business	permits should be obtained when required. The Proponent must abide to the solid waste management
Solid and Hazardous Waste Management Regulations: Local Authorities 1992	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste.	permits should be obtained when required. The Proponent must abide to the solid waste management provisions.
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste.	permits should be obtained when required. The Proponent must abide to the solid waste management provisions. The Proponent must abide to
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous Substances	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste.	permits should be obtained when required. The Proponent must abide to the solid waste management provisions.
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous Substances Ordinance	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste. The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous	permits should be obtained when required. The Proponent must abide to the solid waste management provisions. The Proponent must abide to
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous Substances Ordinance (No. 14 of	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste. The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import	permits should be obtained when required. The Proponent must abide to the solid waste management provisions. The Proponent must abide to
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous Substances Ordinance	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste. 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	permits should be obtained when required. The Proponent must abide to the solid waste management provisions. The Proponent must abide to
Solid and Hazardous Waste Management Regulations: Local Authorities 1992 Hazardous Substances Ordinance (No. 14 of	ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. Provides for management and handling of industrial, business and domestic waste. The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import	permits should be obtained when required. The Proponent must abide to the solid waste management provisions. The Proponent must abide to

	prevent hazardous substances	
	from causing injury, ill-health or	
	the death of human beings.	
Atmospheric	Part 2 of the Ordinance governs	The proponent should adhere
Pollution	the control of noxious or offensive	to the stipulations of the
Prevention	gases. The Ordinance prohibits	Atmospheric Pollution
Ordinance of	anyone from carrying on a	Prevention Ordinance.
Namibia (No.	scheduled process without a	r revention ordinance.
11 of 1976)	registration certificate in a	
	controlled area. The registration	
	certificate must be issued if it can	
	be demonstrated that the best	
	practical means are being adopted	
	for preventing or reducing the	
	escape into the atmosphere of	
	noxious or offensive gases	
	produced by the scheduled	
	process.	
Nature	The Nature Conservation	The proposed project
Conservation	Ordinance (No. 4 of 1975) covers	implementation is not located
Ordinance	game parks and nature reserves,	in a demarcated conservation
	the hunting and protection of wild	area, national park or unique
	animals, problem animals, fish and	environments.
	indigenous plant species. The	
	Ministry of Environment, Forestry	
	and Tourism (MEFT) administer it	
	and much dense for the control labor over	
	and provides for the establishment	
Forestry Act	of the Nature Conservation Board.	No removal of protected tree
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of	
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a	species or removal of mature
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving	species or removal of mature trees should happen. The
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment.	species or removal of mature trees should happen. The Ministry of Environment,
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment.	species or removal of mature trees should happen. The Ministry of Environment,
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance,	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush,	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license.	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.
Forestry Act	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007)	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards.	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health and Safety of Employees at Work	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour
	of the Nature Conservation Board. The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license. The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health	species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required. The proponent and contractor should adhere to the Labour

	GG1617 of 1 August 1997).	
Traditional	The Traditional Authorities Act	Traditional Authorities should
Authorities	(No. 17 of 1995) provide for the	be consulted when required.
Act (No. 17 of	establishment of traditional	
1995)	authorities, the designation and	
	recognition of traditional leaders;	
	to define their functions, duties	
	and powers; and to provide for	
	matters incidental thereto.	
Public and	The Public and Environmental	The proponent and contractor
Environmental	Health Act (No. 1 of 2015)	should adhere to the Public
Health Act	provides with respect to matters of	and Environmental Health
	public health in Namibia. The	Act.
	objects of this Act are to: (a)	
	promote public health and	
	wellbeing; (b) prevent injuries,	
	diseases and disabilities; (c)	
	protect individuals and	
	communities from public health	
	risks; (d) encourage community	
	participation in order to create a	
	healthy environment; and (e)	
	provide for early detection of	
	diseases and public health risks.	
National	All protected heritage resources	The National Heritage Council
Heritage Act	discovered need to be reported	should be consulted when
(No. 27 of	immediately to the National	required.
2004)	Heritage Council (NHC) and	
	require a permit from the NHC	
	before it may be relocated. This	
	should be applied from the NHC.	
National	No person shall destroy, damage,	The proposed site for
Monuments	excavate, alter, remove from its	development is not within any
Act of	original site or export from	known monument site both
Namibia (No.	Namibia:	movable or immovable as
28 of 1969) as	(a) any meteorite or fossil; or	specified in the Act, however
amended until	(b) any drawing or painting on	in such an instance that any
1979	stone or a petroglyph known or	material or sites or
	commonly believed to have been	archeologic importance are
	executed by any people who	identified, it will be the
	inhabited or visited Namibia before	responsibility of the developer
	the year 1900 AD; or	to take the required route and
	(c) any implement, ornament or	notify the relevant
	structure known or commonly	commission.
	believed to have been used as a	
	mace, used or erected by people	
	referred to in paragraph; or	
	(d) the anthropological or	
	archaeological contents of graves,	
	caves, rock shelters, middens,	
	shell mounds or other sites used	
	by such people; or	

	(e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit	
	issued under this section.	
Public Health Act (No. 36 of 1919)	Under this act, in section. Under this act, in section 119: "No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected and will be included in the EMP. Relevant protective equipment shall be provided for employees in construction. The development shall follow requirements and specifications in relation to water supply and sewerage handling and solid waste management so as not to threaten public health of future residents on this piece
0.11		of land.
Soil Conservation Act (No. 76 of 1969)	The objectives of this Act are to: Make provisions for the combating and prevention of soil erosion; Promote the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic;	Only the area required for the operations should be cleared from vegetation to ensure the minimum impact on the soil through clearance for construction.
Air Quality Act (N0. 39 of 2004)	The Air Quality Act (No. 39 of 2004) intends to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.	should adhere to the Air Quality Act.
Vision 2030 and National Development Plans	Namibia's overall development ambitions are articulated in the Nation's Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 4th NDP which pursues three overarching goals for the	The proposed project is an important element in employment creation.

Namibian	nation:	high	and
sustained	economic	; gro	owth;
increased	income eq	juality;	and
employme	nt creation.		

CONCLUSION AND IMPACT

It is believed the above administrative, legal and policy requirements which specifically guide and governs development will be followed and complied with in the planning, implementation and operations of the activity.

A flowchart indicating the entire EIA process is shown in the Figure below.

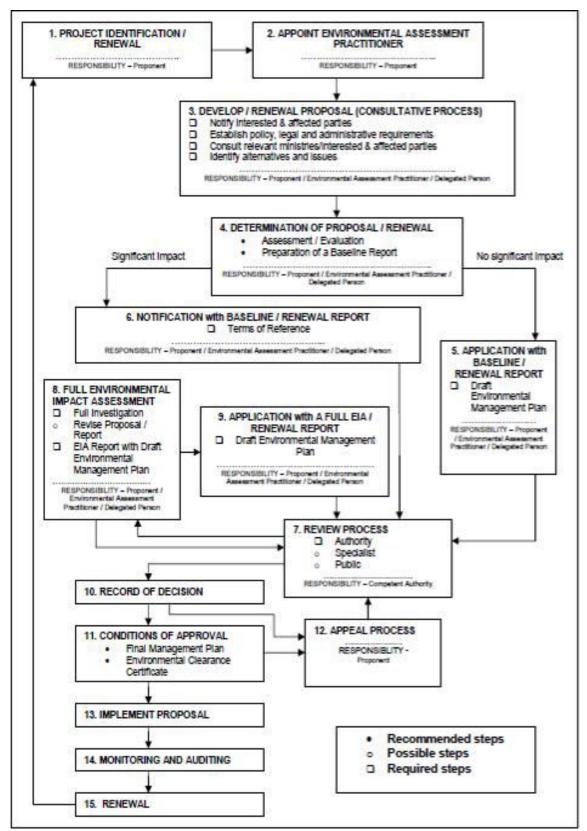


Figure 8: Flowchart of the Impact Process

10. AFFECTED RECEIVING ENVIRONMENT

10.1. BIODIVERSITY AND VEGETATION

Lüderitz is part of the Namib Desert and Succulent Karoo Biomes. The project site is showing evidence of some human interference namely informal tracks are present and a few gravel roads are present on the site. The erf has a limited amount of vegetation.

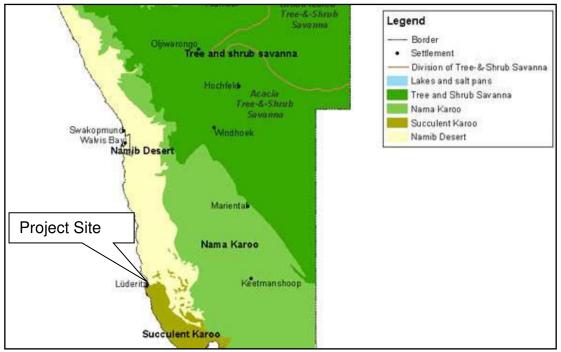


Figure 9: Biomes in Namibia (Atlas of Namibia Project, 2002)

The natural characteristics of the project site namely the vegetation clearance and the destruction of habitats is expected to further on have a low impact on the environment before the mitigation measures are taken and after the mitigation measures are taken, the impact will be very low.

CONCLUSION AND IMPACT

The activities will have a low impact on vegetation, shrubs, and trees.

10.2. GEOLOGY AND SOILS

Lüderitz is located in the Namaqua Metamorphic Complex Group. The rocky subsurface of Lüderitz consists of crystalline rocks of the Namaqua Metamorphic Complex. These ancient rocks belong to the oldest formations known in southern Namibia. These rock formations can be observed throughout the town and forms the foundations of many of the buildings to be observed in Lüderitz.

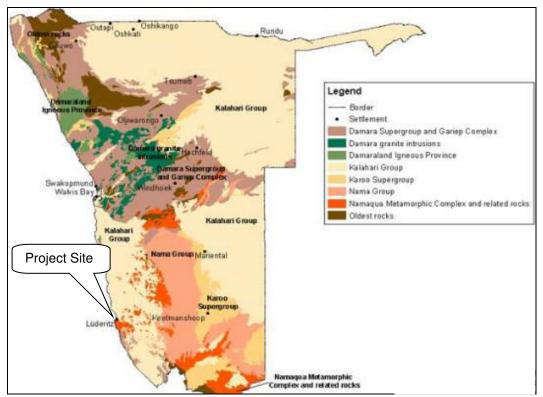


Figure 10: Geology of Namibia (Atlas of Namibia Project, 2002)

CONCLUSION AND IMPACT

The activities will not impact on the geology, soils and geohydrology of the area. The surface drainage canals will be kept open in order that water can flow through.

10.3. SOCIO ECONOMIC ENVIRONMENT

A large section of the town's economy relies on providing services for the mining, fishing and tourism industries as well as the activities of Lüderitz harbour. The town experience a high traffic of trucks taking goods in and out of the harbour which requires fuel and lubricants as well as parking. Lüderitz will benefit from more employment opportunities, skills and technology transfer during construction and operations of the development. The spending power of locals is likely to increase because of employment during the construction and operational phase.

The area where Erf 1876, Lüderitz is located has been earmarked by the Town Council for industrial use and is serviced with bulk services. The proposed development will not have a negative impact on the social environment as it is in line with the proposed uses in this area. It will thus have a positive impact on the social environment. The socio-economic characteristics of the area are continuously changing as more economic activities are established within the area.

CONCLUSION AND IMPACT

The activities will have a positive impact on the community since employment will be created.

10.4. CLIMATE

The climate in Lüderitz is called a desert climate. There is virtually no rainfall all year long in Lüderitz. The Köppen-Geiger climate classification is BWk. The average annual temperature is 15.8 °C in Lüderitz. Precipitation averages 17 mm.

The driest month is January. There is 0 mm of precipitation in January. The greatest amount of precipitation occurs in May, with an average of 3 mm. With an average of 17.9 °C, February is the warmest month. The lowest average temperatures in the year occur in August, when it is around 13.5 °C. The precipitation varies 3 mm between the driest month and the wettest month. The variation in temperatures throughout the year is 4.4 °C (*Climate-Data.org, 2017*).

			Clim	ate data fo	r Lüderitz								(hide
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	32.5 (90.5)	30.0 (86)	34.1 (93.4)	36.5 (97.7)	33.0 (91.4)	31.6 (88.9)	30.7 (87.3)	33.0 (91.4)	35.1 (95.2)	35.0 (95)	37.5 (99.5)	30.6 (87.1)	37.5 (99.5)
Average high °C (°F)	21.4 (70.5)	21.3 (70.3)	21.1 (70)	19.9 (67.8)	19.2 (66.6)	19.0 (66.2)	17.9 (64.2)	17.2 (63)	17.3 (63.1)	18.0 (64.4)	19.2 (66.6)	20.5 (68.9)	19.3 (66.7)
Daily mean °C (°F)	17.7 (63.9)	17.8 (64)	17.4 (63.3)	16.3 (61.3)	15.5 (59.9)	15.1 (59.2)	14.1 (57.4)	13.7 (56.7)	13.9 (57)	14.7 (58.5)	15.8 (60.4)	17.0 (62.6)	15.7 (60.3)
Average low °C (°F)	14.0 (57.2)	14.3 (57.7)	13.8 (56.8)	12.6 (54.7)	11.7 (53.1)	11.2 (52.2)	10.4 (50.7)	10.2 (50.4)	10.5 (50.9)	11.4 (52.5)	12.3 (54.1)	13.5 (56.3)	12.1 (53.8)
Record low °C (°F)	5.5 (41.9)	5.0 (41)	6.0 (42.8)	5.5 (41.9)	3.3 (37.9)	0.2 (32.4)	3.0 (37.4)	4.8 (40.6)	3.4 (38.1)	3.4 (38.1)	4.9 (40.8)	3.9 (39)	0.2 (32.4)
Average precipitation mm (inches)	0(0)	1 (0.04)	2 (0.08)	2 (0.08)	3 (0.12)	3 (0.12)	1 (0.04)	2 (0.08)	1 (0.04)	0 (0)	0 (0)	0 (0)	17 (0.67)
Average precipitation days (≥ 0.1 mm)	1.0	1.0	1.0	0.9	1.4	1.4	1.0	0.7	0.5	0.5	0.5	0.7	10.6
Average relative humidity (%)	82	81	82	80	79	72	74	78	80	80	80	80	79
Mean monthly sunshine hours	198.4	203.4	257.3	216.0	213.9	144.0	170.5	201.5	216.0	201.5	189.0	176.7	2,388.2
Mean daily sunshine hours	6.4	7.2	8.3	7.2	6.9	4.8	5.5	6.5	7.2	6.5	6.3	5.7	6.5

Figure 11: Climate in Lüderitz (Deutscher Wetterdienst)

CONCLUSION AND IMPACT

The activities will not have an impact on the climate.

10.5. HYDROLOGICAL COMPONENT

Considering the solid metamorphic rock basements, lack of both porous sand stones and gravel beds and the prevailing dryness of the area, potable water is lacking in this area of Lüderitz. The danger of polluting underground water is therefore zero. Therefore, the area where the project site is located has a very low groundwater potential from a permeability and yield perspective (*Grunert, 2003*). Although the rainfall in this area is very low and most of the surface water evaporates, runoff can be expected due to the impermeability of soils (*Grunert, 2003*). The storage and accumulation of substances, which might pollute lower lying surface drainage systems or basins because of surface water drainage, should be prevented. No potential pollutants should be channelled or directed towards any drainage areas or the sea.

The fuel storage facilities will have bund walls to prevent any leakage of spillages of diesel and oil into the surface and ground water. The filling and dispensing points will also be paved and equipped with spill containment infrastructure to prevent any spillages from polluting surface and ground water.

From the hydrological assessment perspective, no major geological structures that will enhance groundwater recharge or flow are evident on the proposed project site (*Grunert, 2003*).

CONCLUSION AND IMPACT

The proposed activities will not have an impact on surface and ground water.

10.6. CULTURAL HERITAGE

The proposed project site is not known to have any historical significance prior to or after Independence in 1990. The specific area does not have any National Monuments and the specific site has no record of any cultural or historical importance or on-site resemblance of any nature. No graveyard or related article was found on the site.

CONCLUSION AND IMPACT

No heritage resources or graveyards were observed on the site or in the area.

10.7. SENCE OF PLACE

Erf 1876, Lüderitz is located in an industrial area of the Town. The site is also situated in reaching distance to bulk infrastructural networks consisting of roads and electricity. The proposed activities will not have a negative impact on the sense of place in the area. An untidy or badly managed site can detract from the ecological well-being and individuality of the area. Unnecessary disturbance to the surroundings could be caused by poorly planned or poorly managed operational activities. The project site should be kept neat and clean where possible. Vegetation should not be removed or harmed if not necessary since it covers topsoil which prevents erosion. Noise and dust should be limited in the construction phase because of the neighbouring industrial and business activities.

CONCLUSION AND IMPACT

The impact on the sense of place will be low.

10.8. HEALTH

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). A health and safety officer are employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace. The introduction of external workers into the area is sometimes accompanied with criminal activities posing security risks for neighbours. However, the proponent will take certain measures to prevent any activity of this sort. The welfare and quality of life of the neighbours and workforce needs to be considered for the project to be a success on its environmental performance. Conversely, the process should not affect the overall health of persons related to the project including the neighbours.

CONCLUSION AND IMPACT

The proposed activities will have a low impact on the health of the community.

11. IMPACT ASSESSMENT AND EVALUATION

The Environmental Impact Assessment sets out potential positive and negative environmental impacts associated with the proposed project, which is located on Erf 1876, Lüderitz. The following assessment methodology will be used to examine each impact identified, see *Table* below:

Criteria		(Severity)
		· · · · · · · · · · · · · · · · · · ·
Impact Type	+	Positive
	0	No Impact
	-	Negative
Significance of impact being either	L	Low (Little or no impact)
	М	Medium (Manageable impacts)
	н	High (Adverse impact)

 Table 1: Impact Evaluation Criterion (DEAT 2006)

Probability:	Duration:
5 – Definite/don't know	5 - Permanent
4 – Highly probable	4 – Long-term (impact ceases)
3 – Medium probability	3 – Medium term (5 – 15 years)
2 – Low probability	2 – Short-term (0 – 5 years)
1 – Improbable	1 - Immediate
0 - None	
Scale:	Magnitude:
5 – International	10 – Very high/don't know
4 – National	8 - High
3 – Regional	6 - Moderate
2 – Local	4 - Low
1 – Site only	2 - Minor
	0 - None

The impacts on the receiving environment are discussed in the paragraphs below:

11.1.IMPACTS DURING THE CONSTRUCTION ACTIVITY

Some of the impacts that the project will have on the environment includes water will be used for the construction and operation activities, electricity will be used, a sewer system will be constructed and wastewater will be produced on the site that will have to be handled.

11.1.1. WATER USAGE

Water is a scarce resource in Namibia and therefore water usage should be monitored and limited in order to prevent unnecessary wastage. The proposed project might make use of water in its construction phase and operations.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Water	-	2	2	4	2	М	L

11.1.2. ECOLOGICAL IMPACTS

The proposed infrastructure will be constructed in a semi disturbed natural area which is partly covered with vegetation. Special care should be taken to limit the destruction or damage of the vegetation. However, impacts on fauna and flora are expected to be minimal. Disturbance of areas outside the designated working zone is not allowed.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Ecology	-	1	2	4	2	М	L

11.1.3. DUST POLLUTION AND AIR QUALITY

Dust generated during the transportation of building materials; construction and installation of bulk services, and problems thereof are expected to be low and site specific. Dust is expected to be worse during the winter months when strong winds occur. Release of various particulates from the site during the construction phase and exhaust fumes from vehicles and machinery related to the construction of bulk services are also expected to take place. Dust is regarded as a nuisance as it reduces visibility, affects the human health and retards plant growth. It is recommended that regular dust suppression be included in the construction activities, when dust becomes an issue.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	2	2	М	L

11.1.4. NOISE IMPACT

An increase of ambient noise levels at the proposed site is expected due to the construction activities. Noise pollution due to heavy-duty equipment and machinery might be generated. It is not expected that the noise generated during construction will impact any third parties due to the distance of the neighbouring activities. Ensure all mufflers on vehicles are in full operational order; and any audio equipment should not be played at levels considered intrusive by others. The construction staff should be equipped with ear protection equipment.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
	71-					Unmitigated	Mitigated
Noise	-	2	1	4	2	М	L

11.1.5. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and general public are of great importance. Workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). A health and safety officer should be employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace.

Safety issues could arise from the earthmoving equipment and tools that will be used on site during the construction phase. This increases the possibility of injuries and the contractor must ensure that all staff members are made aware of the potential risks of injuries on site. The presence of equipment lying around on site may also encourage criminal activities (theft).

Sensitize operators of earthmoving equipment and tools to switch off engines of vehicles or machinery not being used. The contractor is advised to ensure that the team is equipped with first aid kits and that these are available on site, at all times. Workers should be equipped with adequate personal protective gear and properly trained in first aid and safety awareness.

No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises. Proper barricading and/or fencing around the site especially trenches for pipes and drains should be erected to avoid entrance of animals and/or unauthorized persons. Safety regulatory signs should be placed at strategic locations to ensure awareness. Adequate lighting within and around the construction locations should be erected, when visibility becomes an issue.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	М	L

Impact evaluation

11.1.6. CONTAMINATION OF GROUNDWATER

Care must be taken to avoid contamination of soil and groundwater. Use drip trays when doing maintenance on machinery. Maintenance should be done on dedicated areas with linings or concrete flooring. The risk can be lowered further through

proper training of staff. All spills must be cleaned up immediately. Excavations should be backfilled and sealed with appropriate material, if it is not to be used further.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signif	icance
	71					Unmitigated	Mitigated
Groundwater	-	2	2	2	2	М	L

11.1.7. SEDIMENTATION AND EROSION

Vegetation clearance and creation of impermeable surfaces could result in erosion in areas across the proposed area. The clearance of vegetation will further reduce the capacity of the land surface to slow down the flow of surface water, thus decreasing infiltration, and increasing both the quantity and velocity of surface water runoff. The proposed construction activities will increase the number of impermeable surfaces and therefore decrease the amount of groundwater infiltration. As a result, the amount of storm water during rainfall events could increase. If proper storm water management measures are not implemented this will impact negatively on the water courses close to the site.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	cance
						Unmitigated	Mitigated
Erosion and Sedimentation	-	1	2	4	2	М	L

11.1.8. GENERATION OF WASTE

This can be in a form of rubble, cement bags, pipe and electrical wire cuttings. The waste should be gathered and stored in enclosed containers to prevent it from being blown away by the wind. Contaminated soil due to oil leakages, lubricants and grease from the construction equipment and machinery may also be generated during the construction phase.

The oil leakages, lubricants and grease must be addressed. Contaminated soil must be removed and disposed of at a hazardous waste landfill. The contractor must provide containers on-site, to store any hazardous waste produced. Regular inspection and housekeeping procedure monitoring should be maintained by the contractor.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
	71-1					Unmitigated	Mitigated
Waste	-	1	2	4	2	М	L

11.1.9. CONTAMINATION OF SURFACE WATER

Contamination of surface water might occur through oil leakages, lubricants and grease from the equipment and machinery during the installation, construction and maintenance of bulk services at the site. Oil spills may form a film on water surfaces in the nearby streams causing physical damage to water-borne organisms.

Machinery should not be serviced at the construction site to avoid spills. All spills should be cleaned up as soon as possible. Hydrocarbon contaminated clothing or equipment should not be washed within 25m of any surface water body.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Surface water	-	2	2	4	3	М	L

11.1.10. TRAFFIC AND ROAD SAFETY

All drivers of delivery vehicles and construction machinery should have the necessary driver's licenses and documents to operate these machines. Speed limit warning signs must be erected to minimise accidents. Heavy-duty vehicles and machinery must be tagged with reflective signs or tapes to maximize visibility and avoid accidents.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Traffic	-	2	2	4	3	М	L

11.1.11. FIRES AND EXPLOSIONS

There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and they are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Fires and Explosions	-	2	2	4	2	L	L

11.1.12. SENSE OF PLACE

The placement, design and construction of the proposed infrastructure should be as such as to have the least possible impact on the natural environment. The proposed activities will not have a large/negative impact on the sense of place in the area since it will be constructed in a manner that will not affect the neighbouring erven / portions and it will not be visually unpleasing.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Nuisance Pollution	-	1	1	2	2	L	L

11.2. IMPACTS DURING THE OPERATIONAL PHASE

11.2.1. ECOLOGICAL IMPACTS

Staff and visitors should only make use of walkways and existing roads to minimise the impact on vegetation. Minimise the area of disturbance by restricting movement to the designated working areas during maintenance and drives.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Ecology Impacts	-	1	2	4	2	L	L

11.2.2. DUST POLLUTION AND AIR QUALITY

Vehicles transporting goods and staff will contribute to the release of hydrocarbon vapours, carbon monoxide and sulphur oxides into the air. Possible release of sewer odour, due to sewer system failure of maintenance might also occur. All maintenance of bulk services and infrastructure at the project site has to be designed to enable environmental protection.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	4	4	М	L

11.2.3. CONTAMINATION OF GROUNDWATER

Spillages might also occur during maintenance of the sewer system. This could have impacts on groundwater especially in cases of large sewer spills. Proper containment should be used in cases of sewerage system maintenance to avoid any possible leakages. Oil and chemical spillages may have a heath impact on groundwater users. Potential impact on the natural environment from possible polluted groundwater also exists.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater contamination	-	2	2	4	2	L	L

11.2.4. GENERATION OF WASTE

Household waste from the activities at the site and from the staff working at the site will be generated. This waste will be collected, sorted to be recycled and stored in on site for transportation and disposal at an approved landfill site.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Waste Generation	-	1	2	2	2	М	L

11.2.5. FAILURE IN RETICULATION PIPELINES

There may be a potential release of sewage, stormwater or water into the environment due to pipeline/system failure. As a result, the spillage could be released into the environment and could potentially be health hazard to surface and groundwater. Proper reticulation pipelines and drainage systems should be installed. Regular bulk services infrastructure and system inspection should be conducted.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Failure of Reticulation Pipeline	-	1	1	4	2	М	L

11.2.6. FIRES AND EXPLOSIONS

Food will be prepared on stoves. There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Fires and Explosions	-	2	1	4	2	М	L

11.2.7. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). Workers should be warned not to approach or chase any wild animals occurring on the site. No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Signific	ance
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	М	L

11.3. CUMULATIVE IMPACTS

These are impacts on the environment, which results from the incremental impacts of the construction and operation of the proposed project when added to other past, present, and reasonably foreseeable future actions regardless of what person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. In relation to an activity, it means the impact of an activity that in it may not become significant when added to the existing and potential impacts resulting from similar of diverse activities or undertakings in the area.

Possible cumulative impacts associated with the proposed project include sewer damages/maintenance, vegetation and animal disturbance, uncontrolled traffic and destruction of the natural environment. These impacts could become significant

especially if it is not properly supervised and controlled. This could collectively impact on the environmental conditions in the area. Cumulative impacts could occur in both the operational and the construction phase.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Cumulative Impacts	-	1	3	4	3	L	L

12. ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan (EMP) provides management options to ensure impacts of the proposed construction are minimised. An EMP is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the operations are prevented, and the positive benefits of the projects are enhanced.

The objectives of the EMP are:

- \checkmark to include all components of the proposed project.
- ✓ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project.
- $\checkmark\,$ to monitor and audit the performance of the project personnel in applying such controls.
- ✓ to ensure that appropriate environmental training is provided to responsible project personnel.

The EMP acts as a document that can be used during the various phases of the proposed project. The contractor as well as the management and staff should be made aware of the contents of the EMP. See Appendix for EMP.

13. CONCLUSION

The EIA has been completed in line with the requirements of the Environmental Management Act, 2007 and Regulations and it is concluded and recommended that the specific site identified namely Erf 1876, Lüderitz, has the full potential to be used for the proposed activities. The identified environmental and social impacts can be minimized and managed through implementing preventative measures and sound management systems. It is recommended that the environmental performance be monitored regularly to ensure compliance and that corrective measures be taken if necessary.

In general, the operation of the proposed project would pose limited environmental risks, provided that the EMP for the activity is used properly. The EMP should be used as an onsite tool during the operation of the project. Parties responsible for non-conformances of the EMP should be held responsible for any rehabilitation that has to be undertaken. After assessing all information available on this project, Green Earth Environmental Consultants are of the opinion that the proposed project site is

suitable for the proposed activities. The accompanying EMP will focus on mitigation measures that will remediate or eradicate the negative or adverse impacts.

It is concluded that, due to the anticipated influx of people to Lüderitz, that there is a need for additional services which Bachmus Oil & Fuel Supplies intends to provide through the development of the fuel storage and handling facilities. The proposed facilities will also create additional employment opportunities. Erf 1876 is large enough, ideally located with good access and thus desirable for the construction and operation of the facilities. As the neighbouring area already has a mixed used character, the proposed use will not impact negatively on the rest of the neighbourhood.

14. **RECOMMENDATION**

It is therefore recommended that the Ministry of Environment, Forestry and Tourism through the Environmental Commissioner support and approve the Environmental Clearance for fuel storage and handling facilities on Erf 1876, Lüderitz, Benguela Extension 3, IIKaras Region and to issue an Environmental Clearance for the following 'Listed Activities':

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

The construction of facilities for the refining of gas, oil and petroleum products.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

- The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.

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APPENDIX A: NEWSPAPER NOTICES



THE NAMIBIAN

SPORT



• Legal •

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STAFF REPORTER

B won in the ull category ahead of SKW A. In the ul4 youth category, SKW B was victorious against SKW A and SKW C.

all teams played against

In the National A League, all teams played against CPC I vona gainst CPC 2 UNBEATABLE ... Cohen Fietball Club 1 successfully kept hold of the Bank Windhoek National A League title over the weekend. UNBEATABLE ... Cohen Fietball Club 1 successfully kept hold of the Bank Windhoek National A League title over the weekend. UNBEATABLE ... Cohen Fietball Club 1 successfully kept hold of the Bank Windhoek National A League title over the weekend. SPC A 2:0 in the final again SPC A 2:0 in the final after the first point code. SKW 1 had more problems with fewer missikes in their own gane and could, ther-second half. Ultimately, the match rended in a draw. SKW narrowly won against SPC 1 and CPC 2 31.1 SKW 1 also defeated SPC 1 3:1 in the second



CFC, SKW dominate play-offs

N

Ministry of Finance and Public Enterprises

Board Members Advertisement

The Financial Intelligence Centre of the Republic of Namibia is established in terms of the Financial Intelligence Act, 2012 (Act No. 13 of 2012), as amended, and its main objective is to combat money laundering and the financing of terrorism or proliferation activities in collaboration with the other law enforcement agencies.

The Financial Intelligence Centre has an opportunity for individuals to apply for consideration to become Board Members. Members of the Board of the Centre are appointed by the Minister of Finance and Public Enterprises.

The Minister hareby invites competent, emotionally intelligent and suitably qualified candidates who show a strong inclination for ethical leadership to apply for consideration for appointment as Board members of the Centre. Applicants should possess a sound knowledge and experience in corporate governance, to include but not imited to the Governance of Risk, Governance of Information Technology. Stakholder: Relations Management, Governance of the Infernation Audit Function, General Administration of the Centre and be able to contribute to the strategic direction of the Centre. Applicants should further have a proven knowledge and experience in the field of anti-money laundering and financing of terrorism or proliferation, financial services provision or regulation, economics, finance, law, business or commerce, human resources, audit and accounting or other disciplines relevant to the operation of the Centre.

A broad experience and understanding of managament and governance challenges gained at Executive level within the private sector and being familiar with Board best practice principles is required. Applicants should be independent, objective and have the ability to hold and defend a position, question and react to proposals in a strategic, challenging and open manner. Demonstrate the ability to understand and be able to build and maintain relationships with a wide range of stakeholders.

- It is expected from Board members to contribute to the following areas:
 Strategy to constructively challenge ideas and contribute to the development of strategic and business plans.
 Performance management and accountability scrutinise the performance of the Centre against its agreed upon strategic objectives and focus areas and monitor the reporting of performance.
 Financial Information ability to understand, review and scrutinise linancial information:
 Leadership demonstrate leadership qualities and the ability to promote effective working relationship among Board members, to foster and observe mutual respect.
 Governmence ensure that governance, internal control and risk management systems are effective and capable of delivering relevant, accurate and timely management and linancial information to the Board.

If it is your desire to serve the Namibian nation with your expertise, you are invited to forward your application

Email ESC Boards

Closing date: Friday, 27 October 2023

NB: Women and intensity encouraged to apply. People with Legal/Aust background and expertise in Human Resource management with a good understanding of the functioning of a Financial Intelligence Unit, and with experience at an executive management level are encouraged to apply. No documents will be returned to applicants.

COHEN Fistball Club I (CFC I) defended their Na-tional A League title, while Sport Klub Windhoek 2 (SKW 2) took the National B League honours during the Bank Windhock fistball the Bank Windhoek nstball play-offs in Windhoek over the weekend. SKW A also won the under-18 championship for the second time. SKW

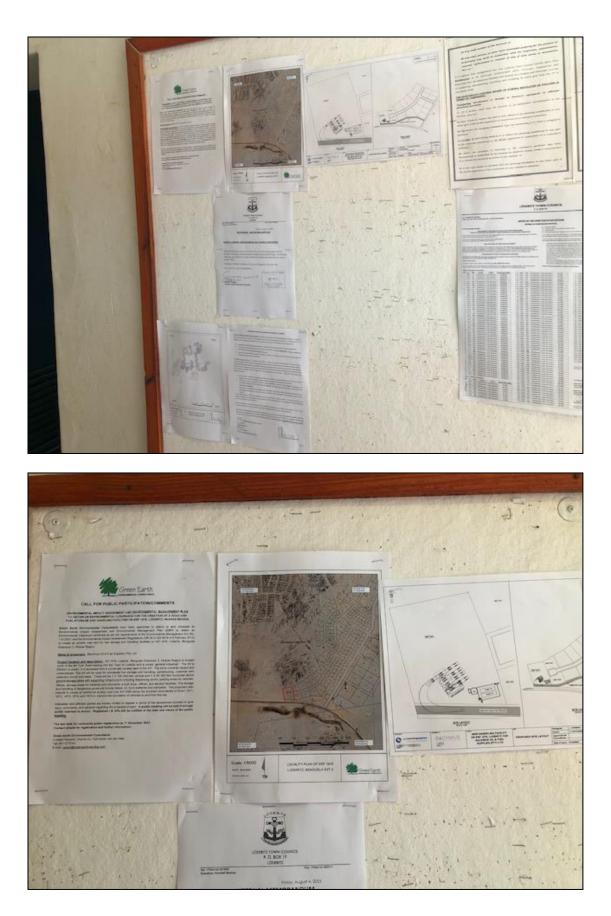
In the National A League,

The Minister of Finance and Public Enterprises Head Office Motike Street Private Bag 13295 Windhoek or Email tore to the street





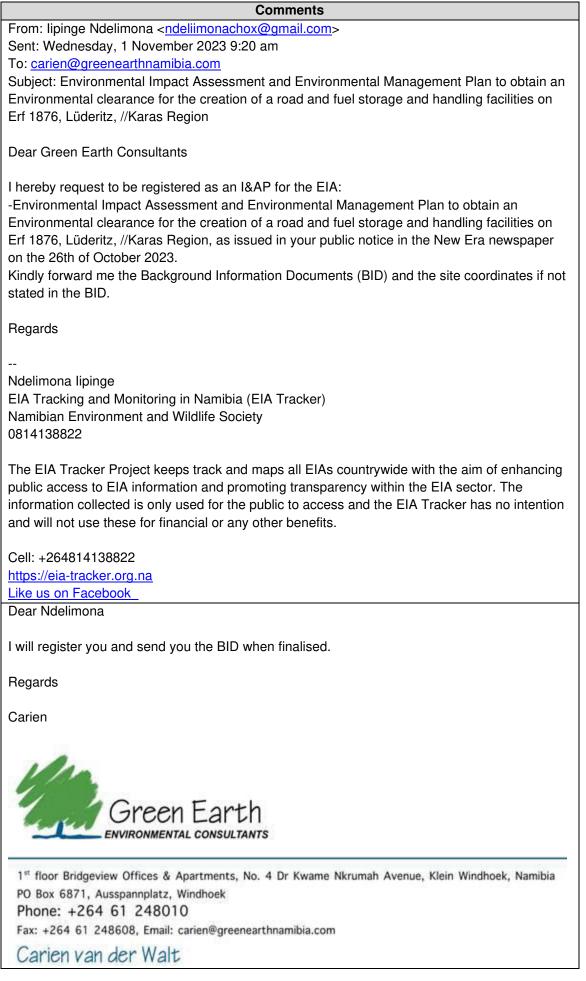
APPENDIX B: NOTICE AT MUNICIPALITY



APPENDIX C: NOTICE ON SITE



APPENDIX D: COMMENTS RECEIVED FROM I&APS



From: lipinge Ndelimona <<u>ndeliimonachox@gmail.com</u>> Sent: Friday, 3 November 2023 11:12 am To: <u>carien@greenearthnamibia.com</u> Cc: <u>charlie@greenearthnamibia.com</u>

Subject: Re: Environmental Impact Assessment and Environmental Management Plan to obtain an Environmental clearance for the creation of a road and fuel storage and handling facilities on Erf 1876, Lüderitz, //Karas Region

Noted with thanks

Dear Ndelimona

Please see attached the Background Information Document.

Regards

Carien



1st floor Bridgeview Offices & Apartments, No. 4 Dr Kwame Nkrumah Avenue, Klein Windhoek, Namibia PO Box 6871, Ausspannplatz, Windhoek Phone: +264 61 248010 Fax: +264 61 248608, Email: carien@greenearthnamibia.com

Carien van der Walt

APPENDIX E: CURRICULUM VITAE OF CHARLIE DU TOIT

- 1. Position: Environmental Practitioner
- 2. Name/Surname: Charl du Toit
- **3. Date of Birth:** 29 October 1960
- 4. Nationality: Namibian

5. Education:	Name of Institution	University of Stellenbosch, South Africa
	Degree/Qualification	Hons B (B + A) in Business
		Administration and Management
	Date Obtained	1985-1987
	Name of Institution	University of Stellenbosch, South Africa
	Degree/Qualification	BSc Agric Hons (Chemistry, Agronomy
		and Soil Science)
	Date Obtained	1979-1982
	Name of Institution	Boland Agricultural High School, Paarl,
		South Africa
	Degree/Qualification	Grade 12
	Date Obtained	1974-1978

EAPAN Member (Membership Number: 112)

6. Membership of Professional Association:

7. Languages: Speaking Reading Writing English Good Good Good Afrikaans Good Good Good 8. Employment From То Employer Position(s) held **Record:** 2009 Present Green Earth Environmental Practitioner Environmental Consultants 2008 2005 Elmarie Du Toit Manager Town Planning Consultants 2003 2005 Pupkewitz General Manager Megabuild 1995 2003 Agra Cooperative Manager Trade Limited Namibia Chief Agricultural 1989 1995 Consultant Development Corporation Ministry of Agricultural 1985 1988 Agriculture Researcher

Certification:

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

IMA.

Charl du Toit

APPENDIX F: CURRICULUM VITAE OF CARIEN VAN DER WALT

Environmental Consultant

Carien van der Walt

- 1. Position:
- 2. Name/Surname:
- **3. Date of Birth:** 6 August 1990
- 4. Nationality: Namibian
- 5. Education:

Institution	Degree/Diploma	Years
University of Stellenbosch	B.A. (Degree) Environment and	2009 to 2011
	Development	
University of South Africa	B.A. (Honours) Environmental	2012 to 2013
	Management	

6. Membership of Professional Associations:

EAPAN Member (Membership Number: 113)

7. Languages:

Language	Speaking	Reading	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. Employment Record:

From	To	Employer	Positions Held
07/2013	Present	Green Earth Environmental Consultants	Environmental
			Consultant
06/2012	03/2013	Enviro Management Consultants Namibia	Environmental
			Consultant
12/2011	05/2012	Green Earth Environmental Consultants	Environmental
			Consultant

9. Detailed Tasks Assigned:

Conducting the Environmental Impact Assessment, Environmental Management Plan, Public Participation, Environmental Compliance and Environmental Control Officer

Certification:

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

Carien van der Walt

APPENDIX G: ENVIRONMENTAL MANAGEMENT PLAN