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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT

THE CONSTRUCTION OF A BULK STORAGE AND HANDLING FACILITY FOR INDUSTRIAL SULPHURIC ACID AT THE SKORPION ZINC WAREHOUSE AT THE PORT OF LÜDERITZ, IN THE !KARAS REGION, NAMIBIA

PREPARED FOR:

skorpion zinc

JUNE 2021

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TITLE AND APPROVAL PAGE

Project Name:	The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia
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EXECUTIVE SUMMARY

This Environmental and Social Impact Assessment (ESIA) report presents the findings of an ESIA undertaken for the proposed construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia. This ESIA report has been undertaken in accordance with the requirements of the Environmental Management Act (EMA), No.7 of 2007 and the Environmental Impact Assessment Regulation, No. 30 of 2012, gazetted under the Environmental Management Act, No. 7 of 2007.

The Skorpion Zinc mine and Refinery was placed under Care and Maintenance in May 2020 following slope failures in the open pit. This was deemed to have an economic impact on both the Rosh Pinah community and the Namibian economy as a whole. To prolong the life of the Skorpion Zinc facilities and to reduce the economic and social impacts of full-scale closure of the site, the Company is working on a project to convert the existing facility into a zinc sulphide concentrate treatment smelter. An application for an environmental clearance certificate was submitted for the conversion of the Skorpion Zinc Refinery. This was granted by the Ministry of Environment, Forestry and Tourism (MEFT) on the on the 31 August 2020 to 31 August 2023. The conversion and modification to the Skorpion Zinc (Namzinc) Refinery will enable the treatment of zinc sulphide (ZnS) concentrate that will be transported from their sister company Black Mountain Mining (Pty) Ltd, Gamsberg Mine, Northern Cape, South Africa.

Skorpion Zinc (Namzinc) (Pty) Ltd herein referred to as the 'Namzinc' propose to transport 314 000 tonnes of zinc sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, for processing at their Namzinc Refinery located in Rosh Pinah, Namibia. A distance of 120 kilometres, from the Namibian-South Africa border, using interlink trucks. Due to the nature of the proposed project, limited jobs may potentially be created during the construction and operation phases of the project, however additional jobs will be created at the refinery itself.
The processing of this material will produce an excess of 75 000 tonnes per annum of sulphuric acid as a by-product. This would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export, by road over a distance of 293 kilometres. Within the existing warehouse at the port, a purpose-built storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

As part of this environmental clearance certificate application, an ESIA has been undertaken to satisfy the requirements of the Environmental Management Act, No. 7 of 2007. This environmental assessment report and Environmental Management Plan (EMP) requested by

the MEFT shall be submitted to the relevant competent authority as part of the application for the environmental clearance certificate.

Through the ESIA process, the identified risks to the environment was the potential for surface water contamination, potentially impacting the coastal and or marine environment. Other significant impacts were related to traffic impacts and increase in ambient noise levels due to trucks and machinery movement, thereby impacting human receptors along the designated proposed project's route and operation sites.

The uncontrolled or incidental spillage of chemicals and or sulphuric acid, during the operation phase, was considered to be of moderate significance. In the unlikely event of an uncontrolled or incidental spillage contaminants could potentially enter the Lüderitz coastal environment causing disruption to marine life, as well as impacting marine habitats and surface water quality. The potential risk of spillages will be contained and managed in order to reduce contaminated surfaces and spread. Sulphuric acid will be stored in bulk tanks within the port's premises within the containment facility, to ensure that any possible tank failure will be contained within the bunded area of a 110% size.

For this project, noise and traffic impact assessments were conducted on the designated route between Oranjemund through the towns of Rosh Pinah, Aus and to Lüderitz. The transport route investigation and impact assessment conducted by Innovative Transport Solutions (Pty) Ltd, concludes that the expected additional truck trips that would be generated by the proposed project, is relatively low (refer to Appendix E for a detail noise assessment report).

Noise sensitive receptors (NSR) generally include places of residence and areas where members of the public may be affected by noise generated by the project, such as vehicle traffic (from heavy and light vehicles), pedestrians and community activity contribute to the acoustic sources in the areas. The impact of an intruding anthropogenic noise source on the environment rarely extends more than 5 kilometres. The potential noise sensitive receptors within the project area, include residential areas (i.e., Rosh Pinah, Aus and Lüderitz) and individual residential dwellings (i.e., farms and lodges). Industrial noise sensitive receptors are also located within the project area.

Based on the findings of the noise assessment conducted by Airshed Planning Professionals (Pty) Ltd, the proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA (refer to Appendix F for a detail noise assessment report).

The overall increase in noise levels that may potentially occur at residential NSR due to project activities is expected to result in 'little' to 'medium' reaction with 'sporadic' complaints. The noise levels are predicted to exceed IFC guidelines at areas within a 200 meters proximity to the Port of Lüderitz due to the proposed construction activities. A complaints register must be kept throughout the life of the operations of the project including during the construction of the storage facility. The project activities for the construction and operational phase are envisioned to take place between 06:00-18:00. The decommissioning phase was not assessed but environmental noise impacts are assumed to be similar to construction activities. Noise impacts will cease post-closure.

With practical mitigation, emergency response and contingency plans and the implementation of the EMP, the potential project impacts can be managed and reduced to minimal effect. While impacts on human receptors from traffic and noise impacts is expected to be minor, prior awareness and communication about the project shall be encouraged. All other social and environmental receptors were scoped out of the assessment as significant effects were unlikely and therefore no further assessment was deemed necessary.

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DEFINITIONS AND ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
ALARP	As Low as Reasonably Practicable
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
ECP	Environmental Contingency Plan
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
ESIA	Environmental Social Impact Assessment
GRN	Government of the Republic of Namibia
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
I&APs	Interested and Affected Parties
IFC	International Finance Cooperation
IUCN	International Union for Conservation of Nature
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MoHSS	Ministry of Health and Social Services
MTW	Ministry of Transport and Works
NDP5	Fifth National Development Plan
NSA	Namibian Statistics Agency
NSR	Noise sensitive receptors
NTS	Non-Technical Summary
PPE	Personal Protective Equipment
TB	Tuberculosis
WHO	World Health Organization
ZnS	Zinc Sulphide

1 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

The purpose of this report is to present the findings of the ESIA that was undertaken for the proposed project. The proposed project involves the construction of a bulk storage and handling facility for sulphuric acid at the Skorpion Zinc warehouse, at the Port of Lüderitz, as described in detail throughout the report.

ECCs terms of reference for this assessment was to strictly address potential environmental and social impacts, whether positive or negative, rate their relative significance, and explore alternatives for technical recommendations and identify appropriate mitigation measures for each impact identified.

This ESIA report and its associated appendices will be submitted to the relevant competent authorities and MEFT for review and a record of decision.

1.2 BACKGROUND

The sulphuric acid is transported from the Namzinc Refinery located in Rosh Pinah, located in the !Karas Region of Namibia, approximately 100 km north-east of Oranjemund and 20km north-west of Rosh Pinah. Sulphuric acid is a byproduct of the zinc refining process. The Namzinc Refinery is situated inside the eastern boundary of the Tsau //Khaeb (formally known as the Sperrgebiet) National Park.

The modification of the existing refinery involves the construction of a roaster, gas cleaning, acid plant and leaching facilities. The Roaster converts the zinc sulphide concentrate into zinc oxide, under high temperature which would then be leached in the proposed leaching facility before being integrated with the existing refinery. During the roasting process sulphur combines with oxygen to produce sulphur dioxide, which in turn is processed to produce sulphuric acid as a by-product to the roasting process.

Sulphuric acid is a hazardous, clear colourless material that may emit choking fumes when hot. The material is non-flammable but when in contact with reactive materials may result in a fire or exothermic reactions. The major use of sulphuric acid is in the production of fertilizers, manufacturing of chemicals, in the petroleum refining process as well as in the processing of metals. Some of the risks associated with the sulphuric acid exposure is its corrosivity to metal and biological tissue, of which the latter may cause severe skin burns and eye damage and should therefore be handled cautiously.

Namzinc will manage the program for the proposed project and engage with their business partners to ensure that the norms of health, safety and environment are met during the construction and operational phases of the project.

The construction of the new storage and handling facility will take place on an area extent of approximately 1649 m^2, as an add-on, east of the existing Skorpion Zinc warehouse, at the Port of Lüderitz (Figure 1). The Port of Lüderitz serves the mines in the southern regions of Namibia and north-western South Africa with imports and exports of mining commodities.

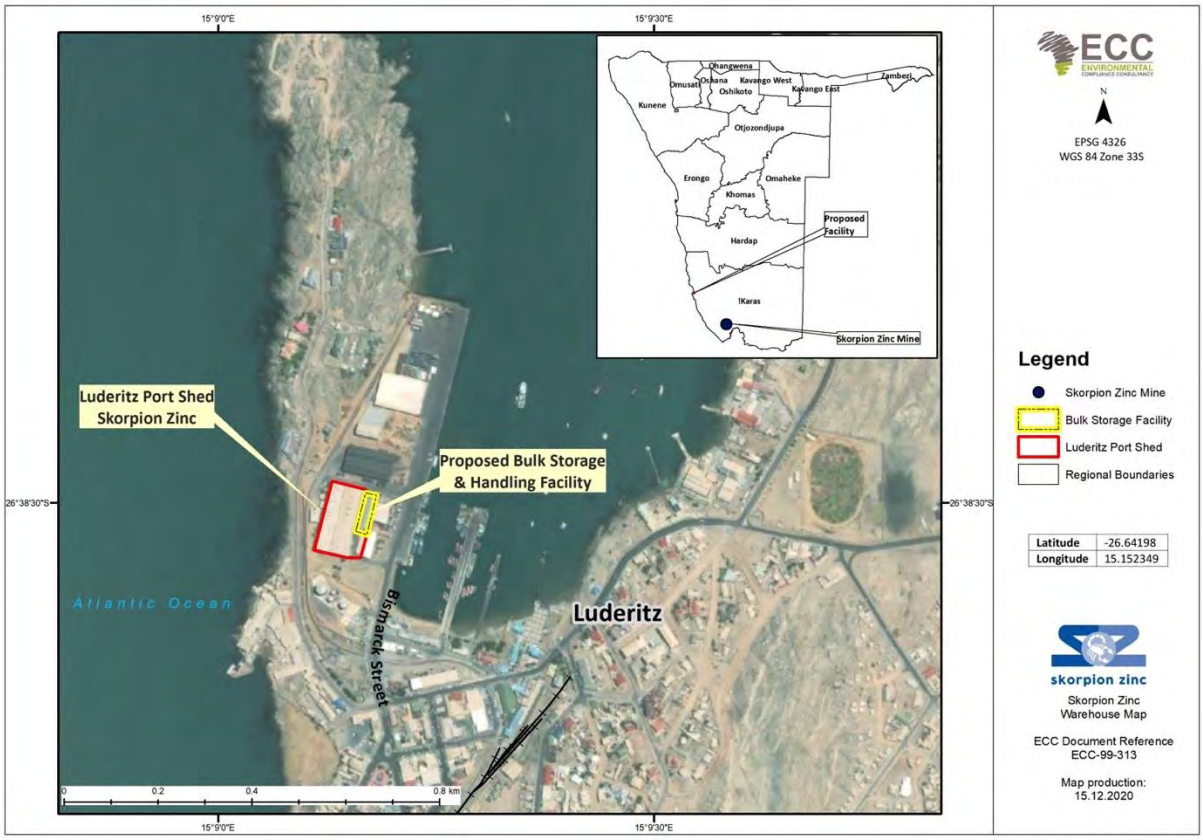

FIGURE 1 - LOCALITY OF THE PROJECT SITE

1.3 SCOPE OF WORK

The assessment report has been prepared by ECC with a terms of reference to assess potential effects, whether positive or negative and their relative significance, explore alternatives for technical recommendations and identify appropriate mitigation measures.

This report provides information to the public and stakeholders to aid in the decision-making process for the proposed project. The objectives are to:

- Provide a description of the proposed activity and the site on which the activity is to be undertaken;
- Provide a description of the environment that may be affected by the activity;
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report;
- Provide details of the public consultation process;
- Describe the need and desirability of the activity;
- Provide a high level of environmental and social impact assessment on feasible alternatives that were considered; and
- Report the assessment findings, identifying the significance of effects, including cumulative effects.

In addition to the environmental assessment, an EMP was requested by the MEFT in terms of the Environmental Management Act, No. 7 of 2007. An EMP has been developed to provide a management framework for the planning, implementation and decommissioning of the site. The EMP provides development standards and arrangements to ensure that the potential environmental and social impacts are mitigated, prevented, minimised and/or enhanced as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

The report, plus impact assessment, supported by specialist studies and appendices, will be submitted to the relevant competent authorities and the Directorate of Environmental Affairs (DEA) at the MEFT for review as part of the application for environmental clearance certificate.

1.4 THE PROPONENT OF THE PROPOSED PROJECT

The details of the proponent are set out in Table 1 below.

TABLE 1 - PROPONENTS DETAILS

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
Namzinc (Pty) Ltd Mr. Tshiningayamwe Eliakim	Private Bag 2003, Rosh Pinah Namibia	ETshiningayamwe@vedantaresources.co.na	063 2712381

1.5 ENVIRONMENTAL CONSULTANCY

ECC, a Namibian consultancy (registration number Close Corporation 2013/11401), has prepared this scoping report and impact assessment on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in both the public and private sectors.
ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered. The CVs of the authors of this report are contained in Appendix E.

All compliance and regulatory requirements regarding this ESIA report should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy
PO BOX 91193
Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

2 APPROACH TO THE IMPACT ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE ASSESSMENT

The aim of this assessment is to determine which impacts are likely to be significant (the main focus of the assessment); scope the available data and any gaps which need to be filled; determine the spatial and temporal scope; and identify the assessment methodology. Subsequently, scoping of the ESIA was undertaken by the EIA team. The scope of the assessment was determined through undertaking a preliminary review of the proposed project against the receiving environment obtained through a desk-top review, review and available site-specific literature.

2.2 THE ASSESSMENT PROCESS

The ESIA methodology applied to this ESIA has been developed using the International Finance Corporation (IFC) standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012); Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice; and over 25 years of combined EIA experience.

This impact assessment is a formal process in which the potential effects of the project on the biophysical, social and economic environments are identified, assessed and reported on, so that the sensitivity of potential impacts can be taken into account when considering whether to grant approval, consent or support for the proposed project.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the client, taking into consideration the potential environmental and social impacts. The process followed through the full assessment is illustrated in Figure 2 and detailed further in the following sections.

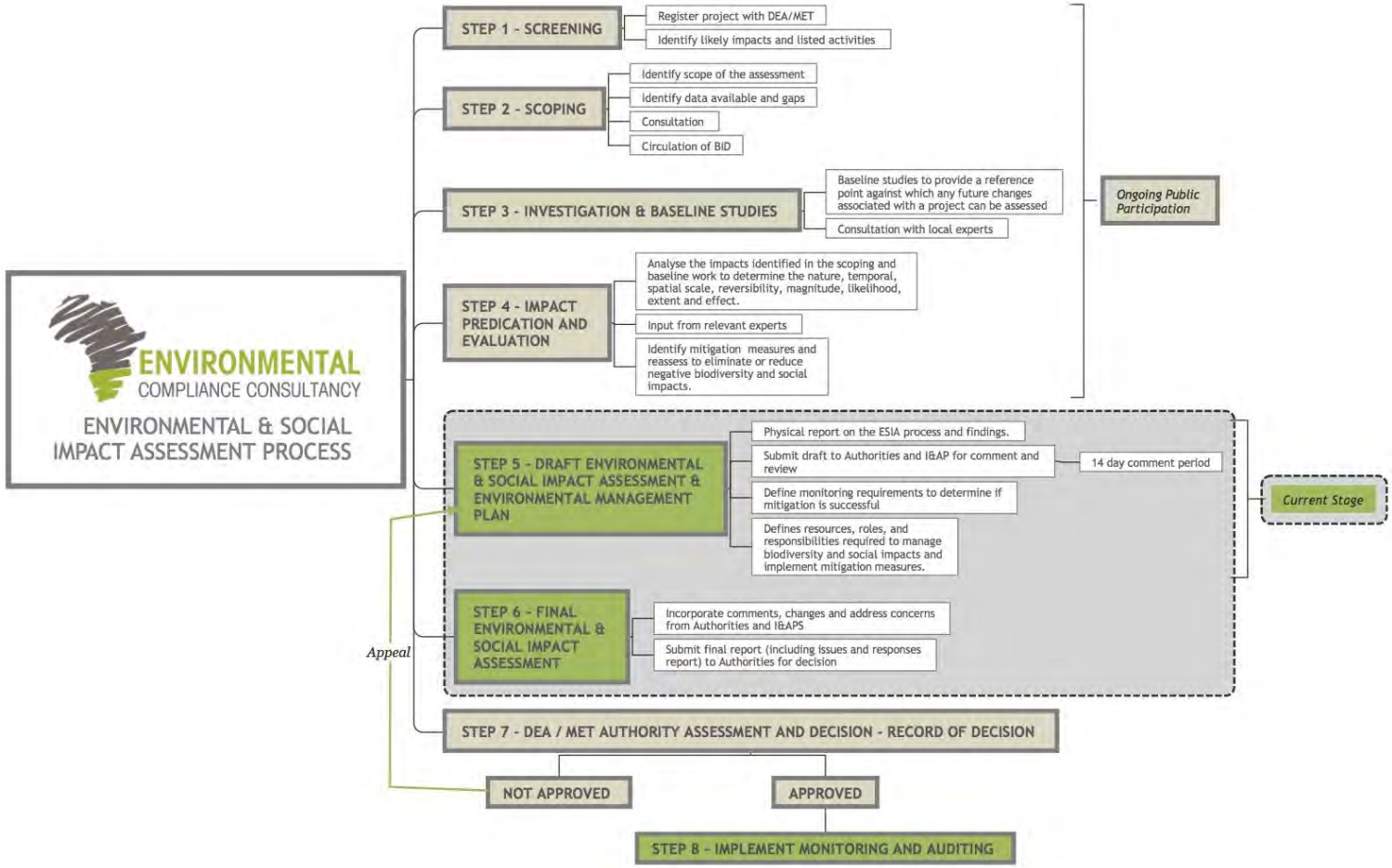

FIGURE 2 - ECC EIA METHOD

2.3 Screening of the Proposed Project

STATUS: COMPLETE

The first stages of the ESIA process are to register the project with the competent authority and undertake a screening exercise. The project has been registered on the MEFT's online portal. The registration number is APP – 002305.

The screening exercise determines whether the proposed project is considered as a Listed Activity in terms of the Environmental Management Act, No. 7 of 2007 and associated regulations, and if significant impacts may arise. The location, scale and duration of project activities will be considered against the receiving environment.
It was concluded that an ESIA (e.g. assessment report and EMP) is required, as the proposed inclusion of construction activities within the scope of the project is considered as a listed activity and there may be potential for impacts to occur.

2.4 Scoping of the Environmental Assessment

STATUS: COMPLETE

The purpose of the scoping stage in the ESIA process is to identify the scope of assessment, undertake a high-level assessment to identify potential impacts (with the assistance of community inputs), and confirm if further investigation is required to assign the severity of potential significant effects and allocate appropriate mitigation.

2.5 Baseline studies

STATUS: COMPLETE

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline against which changes that occur as a result of the proposed project can be measured.

For the proposed project, the baseline information were obtained through a desktop study, focussing on receptors that could be affected by the proposed project and specialities studies such as a noise and traffic assessments were carried out. The baseline information is covered in Section 5.
A robust baseline is required in order to provide a reference point against which any future changes associated with a project can be assessed, and it allows for suitable mitigation and monitoring actions to be identified.

Based on the scale and type of project, the area of influence is regarded as limited to the acid storage warehouse in Lüderitz and broader socio-economic environment of Lüderitz.

Therefore, the baseline environment for this project is composed of the following aspects that should be described in detail and assessed:

- Surface water and ground water;
- Soils and topography;
- Socioeconomics (employment, demographics, and land-use);
- Noise;
- Ecology (fauna and flora); and
- Air quality (emissions, pollutants and dust).

The existing environment and social baseline for the proposed project were collected through various methods:

- Desk-top studies;
- Consultation with stakeholders;
- Engagement with Interested and Affected Parties (I&APs); and
- Fieldwork and Monitoring.

2.6 ESIA CONSULTATION

STATUS: COMPLETE AND ONGOING

Public participation and consultation are requirements in terms of Section 21 of the Environmental Management Act, No. 7 of 2007 and its regulations for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component in the ESIA process, aimed at achieving transparent decision-making, and can provide many benefits.

The objectives of the stakeholder engagement process are to:

- Provide information on the project to I&APs: introduce the overall concept and plan;
- Clarify responsibility and regulating authorities;
- Listen to and understand community issues, concerns and questions;
- Explain the process of the ESIA and timeframes involved; and
- Establish a platform for ongoing consultation.

2.6.1 INTERESTED AND AFFECTED PARTIES

All relevant authoritative bodies were identified and listed as I&APs, as well as organisations and individuals with an implied interest. Other I&APs were identified through invitations

such as the newspaper advertisements and site notices. To all of these stakeholders a formal letter was sent via e-mail. The letter and the list of registered I&APs are provided in Appendix C.1. Consultation with I&APs is complete, however, the final ESIA report and appendices will be provided as a notice of submission to government.

2.6.2 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the ESIA process and when and how consultation is undertaken. The contact details for further enquiries are made available to all registered I&APS and the NTS can be found in Appendix B.

2.6.3 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in three newspapers namely the in the 'Republikein, the Namibian Sun, and Allgemeine Zeitung' newspapers on the 10th and 17th February 2021. The purpose of this was to commence the consultation process and enable I&APs to register an interest with the project. The adverts can be found in Appendix C. Further to this ECC sent out an email informing of the review period to all registered I&APs.

2.7 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of a proposed project. The site notices were set up along the proposed route or boundaries of the site during the field work. Evidence of the site notice placement is illustrated in Appendix C.

2.8 PUBLIC MEETING

In terms of Section 22 of the Environmental Management Act, No. 7 of 2007 and its regulations, for the purpose of registering I&APs. A public meeting is not a requirement during the public consultation process for all proposed projects. As a result from the public consultation feedback and comments, a public meting was not deemed necessary for this project either.

2.8.1 CONSULTATION FEEDBACK

The I&APs were encouraged to provide constructive input during the consultation process, which is ongoing at present. The public review of the scoping report was conducted during the period of the 28th April 2021 to 07th May 2021. The comments received from this public review period (if any) are listed in appendix C.1. and presented to Government as part of the final documents submitted for a record of decision for the project. The final ESIA reports will also be made available to I&APs. No comments or concerns were raised during this period.

2.9 Methodology for the Impact Assessment

This section should state that the impacts identified in the previous scoping phase were put through ECC's assessment methodology to determine their level of significance prior to assigning mitigation and after.

The environmental and social topics that may be affected by the proposed project are described in this section. The baseline focuses on receptors, which could be affected by the proposed project.

2.10 Draft ESIA and EMP

STATUS: COMPLETE

The ESIA report documents the findings of the assessment process, provides stakeholders with an opportunity to comment and continued consultation and forms part of the environmental clearance application. The EMP provides measures to manage the environmental and social impacts of the proposed project and outlines specific roles and responsibilities to fulfil the plan.
The scoping reports were provided to all registered I&APs to solicit their comments for inclusion in the final ESIA reports. During the allocated public review period, no comments were received.

2.11 Final ESIA and EMP

STATUS: COMPLETE AND ONGOING

The full ESIA report will be submitted to the government and a notice of submission will be sent to the registered I&APs as per the requirements of the Environmental Management Act of 2007, including the Environmental Impact Assessment Regulations, No. 30 of 2012. The aim of this stage is to ensure all stakeholders and I&APs are notified of the project's assessment progress and the findings submitted to the government for a record of decision to be made.
The final ESIA report and associated appendices will be available to all stakeholders on the ECC website www.eccenvironmental.com and the proponent's website https://www.vedanta-zincinternational.com/sustainability/emprs. All I&APs are informed via email.

The ESIA report and appendices are formally submitted to the Office of the Environmental Commissioner, DEA department, as part of the application for an environmental clearance certificate.

2.12 Authority Assessment and Decision Making

STATUS: FUTURE STAGE

The Environmental Commissioner in consultation with other relevant competent authorities will assess the findings of the ESIA. Upon review, the Environmental Commissioner will revert back to the proponent with a record of decision.

2.13 Monitoring and Auditing

STATUS: FUTURE STAGE

In addition to the EMP being implemented by the proponent, a monitoring strategy and audit procedure will be determined by the proponent and competent authority. This will ensure key environmental receptors are monitored over time to establish any significant changes from the baseline environmental conditions caused by project activities.

3 STATUTORY REQUIREMENTS

This chapter outlines the regulatory framework applicable to the proposed project.

3.1 NATIONAL LEGISLATION

TABLE 2 - LEGAL COMPLIANCE

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Constitution of the Republic of Namibia of 1990	The constitution clearly defines the country's overarching position in relation to the well-being of Namibians, sustainable development and environmental management. The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following: "Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present, and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory."	The proponent is committed to engage with the local community for the proposed project. The proposed project will create local jobs as well as explore ways of finding beneficial opportunities that could contribute to the regional and national economies.
Environmental Management Act, No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulations, No. 30 of 2012	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the Minister. The Act requires certain	This ESIA report documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements under the Act and associated regulations.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	activities to obtain an environmental clearance certificate prior to project development. The Act states an ESIA may be undertaken and submitted as part of the environmental clearance certificate application. The MEFT is responsible for the protection and management of Namibia's natural environment. The Department of Environmental Affairs under the MEFT is responsible for the administration of the ESIA process.	
Soil Conservation Act, No. 76 of 1969 and the Soil Conservation Amendment Act, No. 38 of 1971	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and manner of use of the soil and vegetation.	The incidental spill risks were assessed for the proposed project, as part of the potential soil quality impacts. The construction methods and final design have been considered in the design of the proposed project.
National Heritage Act, No. 27 of 2004	The Act provides provision of the protection and conservation of places and objects with heritage significance. Section 55 compels companies to report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued	There is no known potential for heritage objects to be found on site. The chance find procedure will be practised should there be any heritage values found.
Labour Act, No. 11 of 2007	The Labour Act, No. 11 of 2007 (Regulations relating to the Occupational Health and Safety provisions of Employees at Work promulgated in terms of Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG 1617 of 1 August 1997)	The proposed project will comply with stringent health and safety policies, including the compulsory use of specific PPE in designated areas to ensure adequate protection against health and safety risks. Proper storage and labelling of hazardous substances are required, if used.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Draft Pollution Control; and Waste Management Bill (1999)	The Bill amalgamates a variety of legislative frameworks in Namibia, regulating pollution in different sectors of the economy. The Bill promotes sustainable development, to provide for the prevention and regulation of the discharges of pollution.	Although not enacted, the Bill has been applied to the ESIA to ensure any activities potentially giving rise to pollution are minimized as far as reasonably practicable and obligations are adhered to.
Dumping At Sea Control Act **Act No. 73 of 1980**	This Act provides for the control of dumping of substances in the sea and for permits to be issued to allow dumping at sea of scheduled substances	The proposed project will comply with stringent waste management measures and safe disposal of substances.
Road Traffic and Transport Act No. 22 of 1999	To provide for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto.	The proposed project involves transportation activities. The employees and business partners shall have to adhere to national road regulations. In addition, drivers are required to be fit for work and tankers should be marked as per the requirements of standard goods classification transportation.
The Namibian Ports Authority Act, Act No. 2 of 1994, as proclaimed in Government Gazette No. 810	The act made provision for "the establishment of the Namibian Ports Authority to undertake the management and control of ports and lighthouses in Namibia and the provision of facilities and services related thereto; and to provide for matters incidental thereto." Under this act, Namport, a state owned enterprise, was established as the port authority and under their control is the Port of Walvis Bay on the central coast and the Port of Lüderitz on the southern coast of	The proposed project will comply with Namport's key roles of which are stated (www.namport.com.na) to: - Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation (ISO) 14001. Uplift and support the communities in which Namport operates.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	Namibia.	
Hazardous Substances Ordinance **Ordinance No. 14 of 1974**	Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export. Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings	The proposed project involves the handling of sulphuric acid, which is classified as a hazardous substance. The project will ensure employees in charge of and working with hazardous substances are aware of the specific hazardous substances in order not to compromise worker and environment safety.

The following laws are applicable to the project and will be complied with:

- The Labour Act, 2007 (Act No. 11 of 2007); and
- The Labour Act, 1992: Regulations relating to the health and safety of employees at work.

The proponent will develop a specific Safety Management and Emergency Response Plan for the construction and operational phases of the proposed development independently to the ESIA that will be in place prior to activities commencing. This plan will contain firefighting standard operating procedures amongst others.

The Ministry of Works and Transport (MoWT) implemented the Vehicle Mass Bill in order to decriminalise overload offences. The Bill also provides for the immediate payment of a security bond that equals the fine. The MoWT manages all driving licensing system, together with the necessary amendments to the Road Traffic and Transport Act, 1999. As such the MoWT is the competent authority for this project.

According to the Roads Authority Act (Act 17 of 1999), the statutory objective of Roads Authority is "To manage the national road network so that it is safe and efficient." Road Safety is a key output of the Roads Authority operations and in this regard, safety elements should be incorporated into the planning and operations of the project. The National Road Safety Council is the statutory body charged with the promotion of road safety. NaTIS is a subdivision of the Transport Information and Regulatory Services in Namibia, which is managed by local authorities. If required, all necessary vehicle registrations and licensing and applications for temporary and special permits should be obtained from NaTIS.

Namport operates within a regulatory and legal framework which can be described as being related to the protection, management and utilization of the marine environment and natural resources for sustainable development and/or intergenerational equity as well as to the protection of human rights.

3.2 Other Regulatory Frameworks

TABLE 3 - OTHER REGULATORY FRAMEWORKS AND THEIR APPLICABILITY TO THE PROJECT

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Vision 2030	Vision 2030 sets out the nation's development programs and strategies to achieve its national objectives. It sets out eight themes to realize the country's long-term vision. Vision 2030 states that the overall goal of the vision is to improve the quality of life of the Namibian people to a level in line with the developed world.	The planned project shall meet the objectives of Vision 2030 and shall contribute to the overall development of the country while building capacity in the local communities.
Fifth National Development Plan (NDP5)	NDP5 is the fifth in the series of seven five-year national development plans that outline the objectives and aspiration of Namibia's long-term vision as expressed in Vision 2030. NDP5 is structured on the pillars of economic progression, social transformation, environmental sustainability and good governance. Under the social transformation pillar is the goal of improved education.	The planned project supports meeting the objectives of NDP5 by creating specialised or skilled opportunities for employment to the nearby community and the Namibian nation. The expansion of Namzinc operations may support this vision.

3.3 CURRENT PROJECT APPROVALS AND STATUS

The environmental clearance certificate application for the conversion of the Namzinc Refinery facility to process zinc sulphide concentrate in addition to zinc oxide ores, in the !Karas Region, was renewed and granted by the MEFT on the 31 August 2020 to 31 August 2023.

3.3.1 ENVIRONENTAL AND SOCIAL IMPACT ASSESSMENT

The Environmental Management Act, No. 7 of 2007 stipulates that an Environmental Clearance Certificate is required to undertake Listed Activities under the Act, and associated regulations. Listed activities triggered by the proposed project in accordance with the Environmental Management Act, No. 7 of 2007 and regulations are listed in Table 4.

The proposed project potentially trigger the following listed activities in terms of the Environmental Management Act, No 7 of 2007:

TABLE 4 - LISTED ACTIVITIES AND RELEVANCE TO THE PROPOSED DEVELOPMENT

LISTED ACTIVITY	ESIA SCREENING FINDING
HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE (9.1) The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974. 9.2 Any process or activity which requires a permit, license or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, license or authorisation or which requires a new permit, license or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste. (9.4) The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location. 9.5 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 proposed project envisions the construction of a bulk storage facility to handle and store sulphuric acid at the Port of Lüderitz. - The process of stevedoring the acid onto ships for exportation.

The permits and licence that may be relevant to the proposed project are outlined in Table 5.

TABLE 5 - A LIST OF PERMITS, LICENCES AND CLEARANCES THAT MIGHT BE NEEDED FOR THIS PROJECT AND THE EXPECTED WAITING TIME FOR APPROVAL.

PERMIT/ LICENCE OR CLEARANCE	ACT/REGUALTION	RELATED ACTIVITIES REQUIRING PERMITS	RELEVANT AUTHORITY	TIME FRAME FOR APPROVAL
Environmental Clearance Certificate	Environmental Management Act, No. 7 of 2007	Required for all listed activities listed in Table 4	MEFT	Permit dependent. Could take up to 12 months Environmental Clearance Certificates are valid for a period of 3 years, after which a renewal is required

3.4 WORLD BANK STANDARDS

The International Finance Corporation (IFC) is a member of the World Bank Group and is the largest global development institution focusing on the private sector in developing countries. Its standards have become a global benchmark for environmental and social performance. They form the basis for the Equator Principles (IFC, 2013), a voluntary environmental and social risk-management framework used by 77 financial institutions worldwide. The Equator Principles are a framework and set of guidelines for evaluating social and environmental risks in project finance activities and apply to all new projects with a total capital cost of US$10 million or more, no matter what industry sectors, without geographic requirement. The Equator Principles are not applicable to this specific project.

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROPOSED PROJECT

The Port of Lüderitz offers exceptional logistical services and links to other towns in Namibia and South Africa. It serves as an important base for the offshore diamond and other land-based mining industries as well as the fishing industry with the ability to provide efficient and safe cargo handling facilities for importers and exporters. Sea Ports are typically the main avenue for bulk and break-bulk imports. These can include chemicals, mineral ores, coal, etc., recognizing the need for dedicated bulk facilities to cater for the mining and related industries.

Currently, sulphur is imported into Namibia via the Port of Lüderitz, while zinc sulphide concentrate, and manganese ores are some of the main exported materials to global market via this port. Sulphur is utilised in the mining industry and zinc sulphide is refined at the Rosh Pinah Refinery. The proposed project will enable zinc concentrate to be transported across the Oranjemund border via interlink trucks to reduce the reliance on sea transportation of zinc sulphide into the country. Furthermore, there is an added advantage of maintaining a steady inflow of zinc sulphide to the refinery through existing logistics and operational infrastructure in the region and therefore ensuring a steady supply of sulphuric acid as a by-product to the international and local markets.

Within the port, offloading of bulk chemical products is typically performed in two ways: 1) by means of an auger conveyor (screw conveyor) inserted directly into trucks; or 2) by means of a grab into a hopper from where trucks or bulk bags/containers can be filled. Break-bulk cargo are typically bulk bags or crates that are offloaded by means of cranes. Construction activities may create job opportunities to the local community, once operations commence the project has the potential of skills development and transfer on a regional level.

4.2 ALTERNATIVES CONSIDERED

The proposed project has been subject to a process of design evolution, informed by both consultation and an iterative environmental assessment. In terms of the Environmental Management Act, No. 7 of 2007 and its regulations, alternatives considered should be analysed and presented in the scoping assessment and ESIA report. This requirement ensures that during the design evolution and decision-making process, potential environmental impacts, costs, and technical feasibility have been considered, which leads to the best option(s) being identified. Alternatives considered exploring the use of rail lines for transporting the acid to South Africa and to local consumers within Namibia rather than through shipping via the Port of Lüderitz. The proposed project area for the storage facility

and mode of transportation was deemed feasible from a technical and commercial perspective, no other site has been identified nor deemed suitable as an alternative project location and transportation is not considered viable.

4.3 CONSTRUCTION METHODOLOGY

4.3.1 PLANNING

The proponent should ensure that all required permits from the various ministries, local authorities and any other bodies that govern the operations and transportation activities are obtained and remain valid throughout the project's development and operation. Ensure all business partners and employees enter into an agreement, which includes the need to adhere to the stipulations within the EMP. The most suitable procedures and methods shall be identified to ensure the impacts on the environment and society from these activities are minimised.

The Port of Lüderitz is under the jurisdiction of Namport, who acts as landlord and port operator, with a number of tenants operating in and from the port. The entire landside of the port area is fenced off and security personnel man the entrance gate. No unauthorised access is allowed in the port area and all visitors must obtain an entrance permit from Namport security.

4.3.2 ROAD TRANSPORT SERVICES

The Road Traffic and Transport Act, (RTTA) that came into effect on 6 April 2001, deals among things, with the control of traffic on public roads. Aspects such as transport operations, legal axle and mass limits, abnormal loads and traffic fines are also dealt with in the RTTA. Persons undertaking freight transport within the borders of Namibia no longer require road carrier permits, however permits are required for cross-border operations. Namibia is a signatory to the SADC Protocol on Transport, Communications and Meteorology. In terms of this agreement Namibia has undertaken certain obligations to the other member countries that include the simplification and harmonization of documentation and procedures for the movement of persons and goods.

Transportation activities of the acid should be managed by ensuring that trucks do not impose any traffic congestion issues on the designated route to Lüderitz. Strict adherence to traffic speed limits and norms should be contractually enforced and adhered to.

Construction work will be entirely conducted through contracted engineering, procurement and construction (EPC) service providers. The below schedule of activities (Table 6) is presented for the project.

TABLE 6 - LIST OF ACTIVITIES PLANNED PER PHASE

PHASE	DATE	ACTIVITY DESCRIPTION
Phase 1: 2020	Field inspection commencement date unknown, 2020 - Completed	- Planning and design modelling of facility - Feasibility studies
Phase 2: 2021	Field inspection commencement date unknown, January 2021 - Completed	- Environmental studies and Impact assessment - Traffic assessment - Noise assessment
Phase 3: 2022	Actual commencement date unknown: March 2022.	- Civil works will commence with the construction of 3 x 5 000 litre acid storage tanks. - The development will consist of 14m high tanks. - Establishment of foundations, will include piling then plate work (mild steel) pumps - Installation of pipes and pipeline system. - Installation of electrical works and flow switches application

The proposed design of the storage and handling facility's foundation will include piling and plate work. Piles and plate work (installation of mild steel pumps) are typically used as reinforcement methods in foundation construction to support heavy load bearing structures.

Thereafter, pipes would be installed to the facility for the process of stevedoring (loading or discharging/ offloading) the acid onto the ships for exportation. The proposed development will take approximately one year to construct. The development will entirely consist of land-based construction.

4.3.3 STORAGE TANKS & PUMPING SYSTEM AT LUDERITZ PORT

The development of the storage tanks and pumping system will be based of the following factors:

- Sulphuric acid storage of (10500 tonnes (Technical grade))
- Ship loading operation (Continuous during ship loading)
- Ship Capacity (8000 tonnes)

The development of the proposed facility will consist of three atmospheric storage tanks, which will have a capacity of 3570 tonnes (1940 m^3) each. The storage tanks dimensions are estimated as 14 m in diameter and 14 m in height (considering 90% utilization, volume of each tank is 2155 m^3). The sulphuric bulk storage and handling facility specifications / drawings/ design is illustrated in Figure 3.

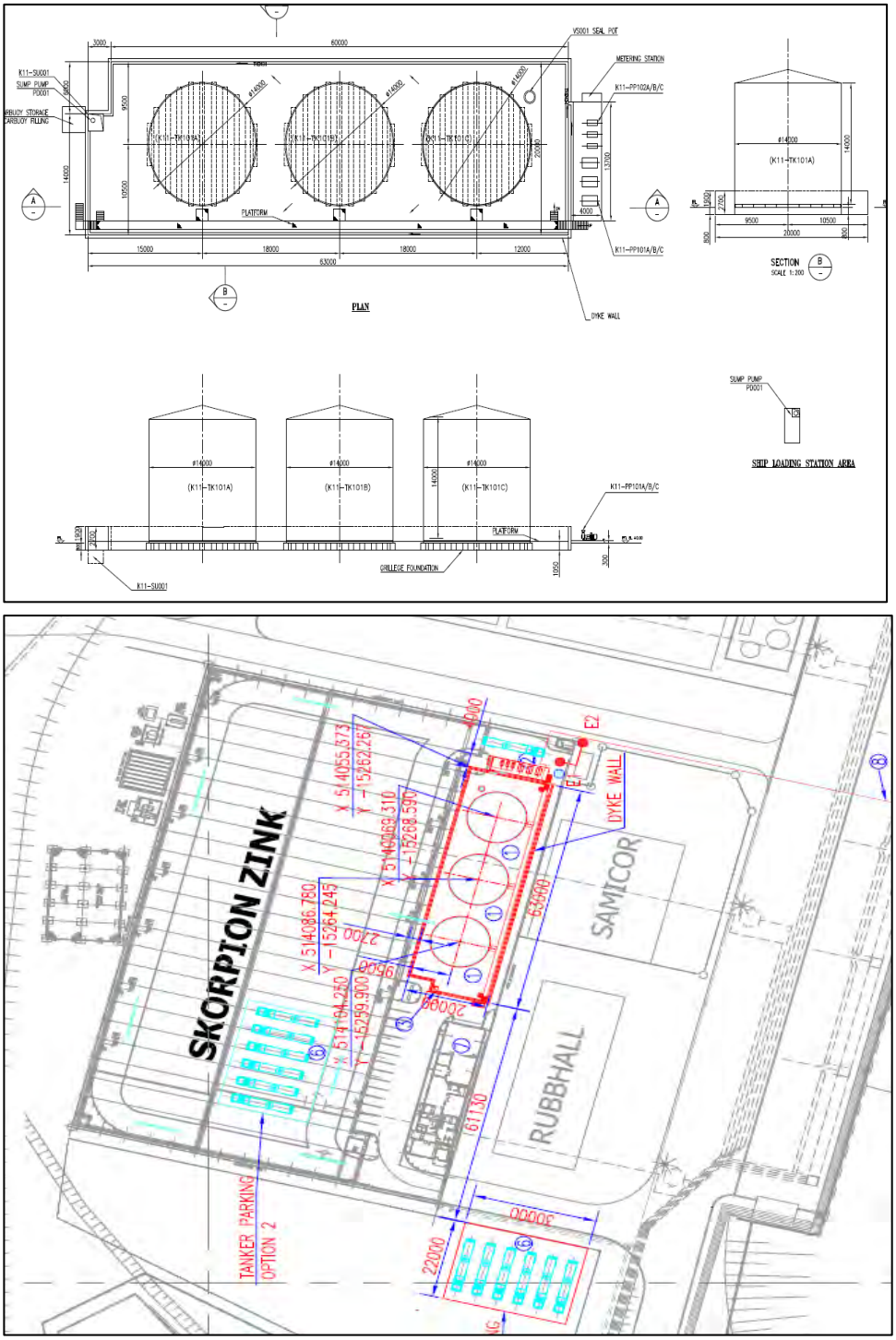

FIGURE 3 – ILLUSTRATION OF THE PROPOSED SULPHURIC ACID STORAGE TANKS PLAN

Tank area Layout:

The proposed acid storage area location was chosen based on the no existing demolition/modification (Namzinc requirement) needed vantage point and the requirement of free passage from a safety point of view. Please refer to the storage tank layout and concept note for the sulphuric acid storage and handling facility (Appendix D).

The general safety requirements and mitigations recommended for the storage tanks development are that the storage tanks should be located on a reinforced concrete pier foundation, which will be located inside a dyke/bund wall for storage tanks. The dyke/bund wall shall consist of a sump to collect any spillage from the pumping bay and from the storage tanks in the event of an emergency. The bund/dyke's wall is proposed to have a capacity of 110% of one tank only and a complete acid proof brick lining. Additionally, the double block isolation valves (plug type) are to be provided for the outlet nozzle of the storage tanks. One of the double block valves shall be a spindle-operated valve (to be checked with vendors during detail engineering). The pumping facility from the bund/dyke's sump to the common header of tanks' inlet shall be provided.

It is recommended in the concept report that one safety shower shall be provided inside the bund/dyke area and one in the pumping bay. As well as, one utility station comprising of raw water & plant (compressed) air shall be provided inside the bund/dyke area and one fire hydrant point should be provided outside the bund/dyke area.

4.4 PROPOSED PROJECT SCHEDULE

The construction and development of the proposed project is anticipated to commence once all approvals are in place and will last for a period of 12 months.

4.5 RESOURCES AND WASTE MANAGEMENT

4.5.1 POWER SUPPLY

The proposed project will be connected to the existing Skorpion Zinc warehouse power supply system. Power will be needed for new electric power connections (for the metal oxide varistors, area lighting, maintenance work and other basic activities).

4.5.2 WATER SUPPLY

Water will be required for various uses including human consumption and for construction and operation activities. The Namwater Koichab water supply scheme supplies Lüderitz with potable water. Water will be sourced from existing onsite pipeline connections.

The following utilities and resources shall be provided at the (jetty) on site:

- Raw water in cubic meter per hour for spillage flushing (minimum of 5 m^3/hr);
- Potable water in cubic meter per hour for safety shower (approximately 5 m^3/hr);
- Fire water (as per statutory norms, minimum one hydrant in the jetty operational area); and
- Plant (compressed) air per normal meter cubed per hour for flushing unloading hoses and for air masks (50 Nm^3/h).

4.5.3 SOLID WASTE MANAGEMENT

During construction and operation, solid waste will be managed in line with the principles of the waste hierarchy for waste prevention, re-use, recycle or compost, energy recovery, and disposal. Waste minimisation and recycling is preferred to waste treatment and disposal (National Solid Waste Management Strategy, MET 2019).

Solid waste may be collected in separate categorized bins, no chemical or hazardous waste will be produced. A collection area will be organised on site for safe disposal.

4.5.4 EMPLOYEES ACCOMMODATION

10 to 20 possible job opportunities are foreseen during the construction phase and employees will be sourced from the local towns such as (Lüderitz, Aus and Rosh Pinah). The employees will be deployed at various stages of construction and operations.

It is envisaged that for most of the construction and operation programme employees will reside in Lüderitz. It is anticipated that the proponent will be completely self-sufficient with regard to power supply and waste management.

5 ENVIRONMENTAL BASELINE AND SITE DESCRIPTION

This section provides an overview of the existing biophysical environment through the analysis of the baseline data regarding the existing natural and socio-economic environment. Desktop studies on the national database are undertaken to get information of the status of the receiving environment. This provides a baseline where changes that occur because of the proposed project can be measured.

The proposed Namzinc activities and project area fall within the Port of Lüderitz, which plays an important role in the livelihoods of a significant portion of the town's population and contributes to revenue generation. The port serves the mines in the southern regions of Namibia and north-western South Africa with imports and exports of mining commodities. It has long been an objective of Namport and related stakeholders to explore avenues of increasing utilisation of the port as a major export avenue of mineral resources. Potential constraints may relate to the value of the historic built-up of the town and the transport network. Moreover, since the sulphuric acid is a hazardous substance (corrosive chemical), a number of different receptors along the route are subject to environmental management considerations.

5.1 REGIONAL BASELINE AND CURRENT BIOPHYSICAL ENVIRONMENT

The surrounding area of the Lüderitz Port and Town is well protected within the Sperrgebiet National Park towards the south, Namib-Naukluft Park towards the north of Lüderitz and the western marine environment area falling within the Namibian Islands Marine Protected Area (NIMPA) (DBMN EIA report, 2019).

5.1.1 CLIMATE

Lüderitz is located on the Namibian coastline in the arid Namib Desert. The arid conditions are as a result of dry descending air and upwelling of the cold Benguela Current. As a result, thick fog or low stratus cloud cover are a regular occurrence in Lüderitz. This is due to the influence of the Benguela Current and forms a major source of water for the flora in the Namib Desert.

Namibia is situated within an anti-cyclone belt of the southern hemisphere. Winds generated from the high-pressure cell over the Atlantic Ocean blow from a southerly direction when they reach the Namibian coastline. As the Namibian interior is warm (particularly in summer), localised low-pressure systems are created which draws the cold southerly winds towards the inland desert areas. These winds manifest themselves in the form of strong prevailing south to south-westerly winds.

Daily fluctuations in wind speed are characterised by calmer winds in the morning with strong wind from late morning to later afternoon. During winter, the east winds generated over the hot Namib Desert have a strong effect on temperature, resulting in temperatures more than 30 °C and tend to transport significant volumes of sand (Geo Pollution Technologies (Pty) Ltd – The Port of Lüderitz EMP, 2019).

The Namibian coast in general has very low rainfall at around 15-20mm/year. Fog is common in the northern half of the coast receiving >125 fog days per year, while Lüderitz in the south have sustainably less. The average maximum temperatures for Diaz Point (Lüderitz) are 17.2 -21.4 °C and minimum are 10.2 – 14.3 °C. The prevailing strong winds along the coast are south to south westerly, which range from an average of 20 knots (37 km/h) during winter months to as high as 60 knots (120 km/h). These winds are stronger and less seasonal in the Lüderitz area to the south of the Namibian coast. In winter, the easterly (berg) winds occur frequently in the northern half of the coast of Namibia and less frequent in the south (including Lüderitz) (DBMN EIA report, 2019).

5.1.2 HYDROLOGY

The proposed project overlays the Namib groundwater basin (Figure 4). Groundwater resources in fractured bedrock aquifers of the Namib and the Sperrgebiet are very limited and, if exploited, extraction easily exceeds recharge. Local aquifers of limited extent are found in fractured zones, but the borehole yields are low (1-5 m^3/h). Dozens of mostly dry boreholes were drilled in and around the town to augment the water supply, until it became clear that no significant new resources could be found in the vicinity. Very few aquifers are found in the western part of the Sperrgebiet (Christelis, G. & Struckmeier, W. (Eds.), 2001).

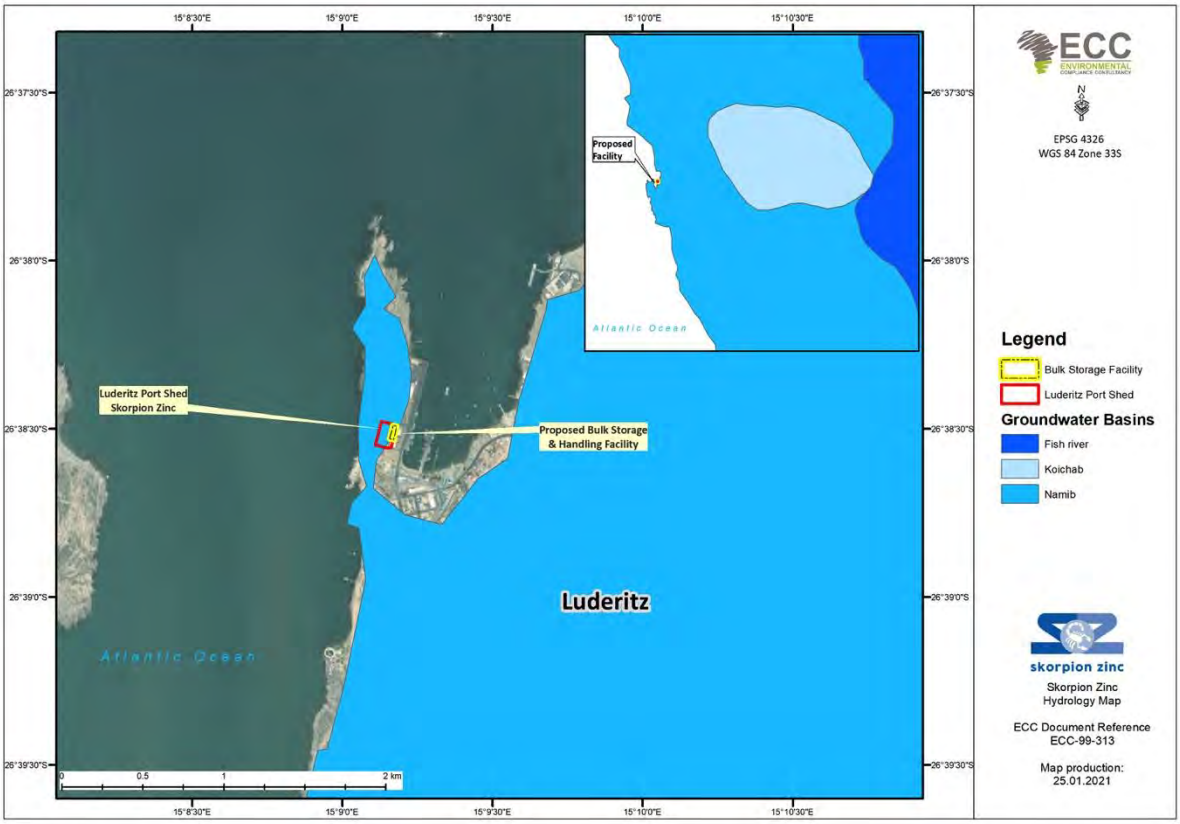

FIGURE 4 - REGIONAL HYDROLOGY MAP

In case an incidental spill occurs, the severity of injuries to the marine life, avian fauna, and sensitive marine environments, which will be dependent on the location, quantity and type of spill will have to be determined. Acid spills tend to spread rapidly whether on land or in water, but the exposure will be enhanced if the spill reaches surface water, groundwater and the ocean. Currents, winds, and temperatures may complicate response efforts in this medium. Three response measures have been developed in the EMP to meet the needs of responders trying to minimize injuries to the environment (contain the spill, rescue the species and communicate with stakeholders).

5.1.3 TOPOGRAPHY AND SOILS

The proposed project area is mainly covered by a Regosol soil type (Figure 5). Regosols are soils in unconsolidated mineral material form of some depth, excluding coarse textured materials and materials with fluvic properties, and have no diagnostic horizons other than an ochric horizon.

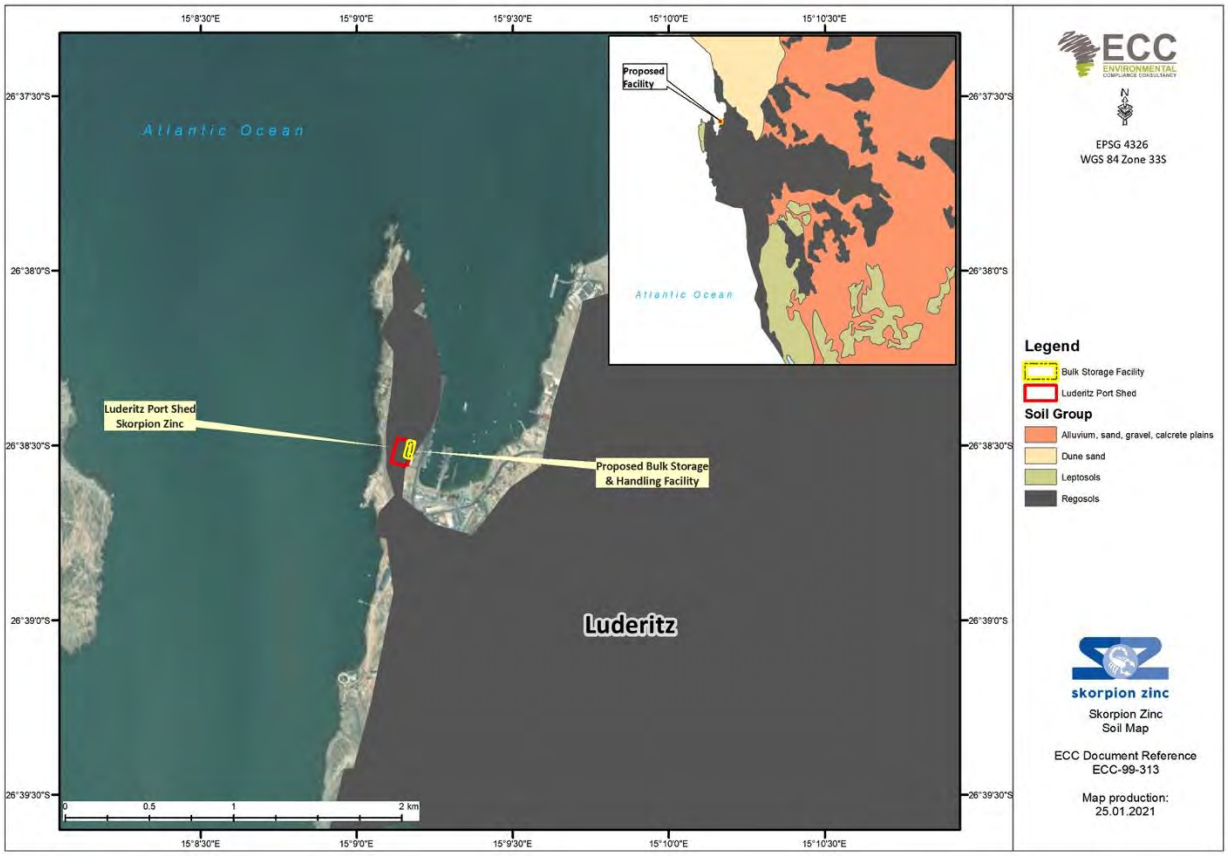

FIGURE 5 - REGIONAL SOIL MAP

5.1.4 VEGETATION

The proposed project overlays the Succulent Karoo biome with a succulent steppe vegetation type and dwarf shrubland structure (Figure 6). The Succulent Karoo is a biodiversity hotspot and has the world's richest succulent diversity which is also characterised by high reptile and invertebrate diversity (Mendelsohn, et al., 2002).

Although very sparsely vegetated, the quarter degree which includes the Lüderitz Peninsula, is considered to have one of the highest numbers of endemic plant species (64 species) of the portion of Succulent Karoo that falls within Namibia. Other areas may however also have high endemism but may be under sampled due to remoteness and inaccessibility compared to the Lüderitz area. Nevertheless, the Lüderitz Peninsula and surrounding area does form a hotspot within the Sperrgebiet.

The Sperrgebiet has been divided into 56 vegetation types (MET 2013). The Lüderitz Peninsula Dwarf Shrubland vegetation type which has a size of 93.2 km^2, inclusive of the Lüderitz urban environment, comprises of 0.43% of the Sperrgebiet. Within the context of the Sperrgebiet National Park, the Lüderitz Peninsula has been declared an (International

Union for Conservation of Nature) IUCN Protected Landscape/Seascape zone. Approximately 84% of this habitat remains in a relatively undisturbed condition. Towards the south and east of the Lüderitz Peninsula Dwarf Shrubland is the Lüderitz Plains Dwarf Shrubland with a high conservation value according to Burke (2006) (Geo Pollution Technologies (Pty) Ltd - Port of Lüderitz EMP, 2019). The proposed project does not fall within the above-mentioned IUCN area.

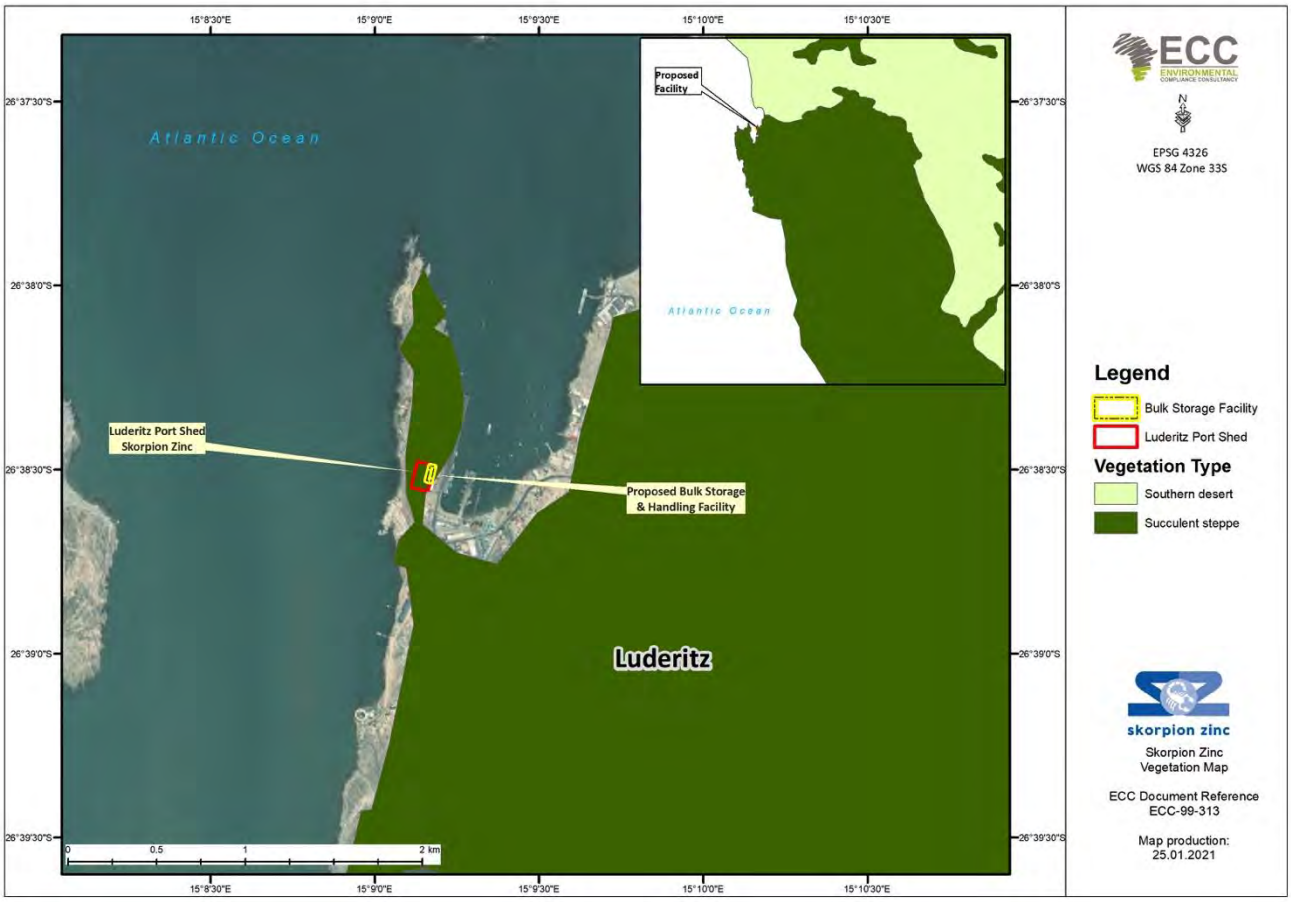

FIGURE 6 - REGIONAL VEGETATION MAP

5.1.5 FAUNA SPECIES

Approximately 25 species of cetaceans occur along the Namibian coast. This includes migratory, resident and semi-resident species. Under the Namibian law, all whales and dolphins are protected species and may not be harvested. Bottlenose dolphins, Heaveside's dolphins and dusky dolphins occur in the area. Less frequently, Humpback whales and the Southern Right whale are also encountered (Pulfrich 2010).

Overall terrestrial biodiversity in the area of Lüderitz, where the proposed storage facility is located, is low. As endemism trends in Namibia show a clear decline to the south, the

number of endemic fauna species potentially occurring on proposed project area is expected to be low. The number of mammal species ranges between 15 and 30, the number of bird species is between 81 and 110, with 21 – 35 reptile species, 8 – 11 frog species and 6 – 9 scorpion species that could be expected (Mendelsohn et al., 2002).

The Lüderitz Bay island complex consists of four coastal islands, all situated within one kilometre of the shore. The rocky shoreline, including Lüderitz fishing harbour, is included within the Important Bird Area (IBA), Halifax Island (3 ha) is located at the south end of Guano Bay near Diaz Point, a promontory at the western entrance of Lüderitz Bay. The whole area lies within the intense upwelling cell off the Lüderitz coastline, creating a node of high marine productivity resulting in large congregations of seabirds. (IBA NA017, the Lüderitz Islands IBA). The other three islands, Penguin (36 ha), Seal (44 ha) and Flamingo, lie to the east of Halifax, within Lüderitz Bay (BirdLife International, 2021). The islands hold some abandoned guano-scrapers' buildings. They support no vegetation other than subtidal kelp and other seaweed on their shores. On the adjacent mainland, the harbour supports dense nesting populations of *Larus hartlaubii* and *Sterna bergii.* It has been recorded that birds may move extensively in response to availability of food (BirdLife International, 2021).

The island areas of Lüderitz are characterized by high species abundance due to the nutrient rich waters caused by upwelling. Islands support more than 10 000 birds while the rocky shorelines of the mainland support more than 14 000 shorebirds (BirdLife International 2017). Historically anthropogenic pressures on many of the bird species have led to a steep decline in their numbers. This was largely as a result of guano harvesting, egg collection and habitat alteration and loss. These activities have since ceased, but occasional oil spills still impact birds. Some important species that are considered endangered or near threatened, and occurring within IBA NA017, are African Penguin (*Spheniscus demersus*), Bank Cormorant (*Phalacrocorax neglectus*), African Oystercatcher (*Haematopus moquini*) and the Crowned Cormorant (*Microcarbo coronatus*) (Source: The IUCN Red List of Threatened Species 2017-1; BirdLife International 2017). The Port of Lüderitz is located near Shark Island, the proponent and business partners should avoid the disturbance of any protected or threatened species and local birdlife. Marine life is managed and protected under the jurisdiction of the Ministry of Fisheries and Marine Resources. Mitigation is discussed in the EMP.

Marine shoreline areas serve as homes to a variety of species during all or part of the year. Many bird species build their nests on sand or among pebbles, while others regularly wander the shoreline searching for food. Marine mammals, such as seals, come ashore to breed and bear their pups. Some fish, swim near shorelines on their upriver migrations.

Namibia has a large population of Cape fur seals. A small colony are present at Diaz Point. Historically, Cape fur seal populations showed significant declines in population numbers due to overharvesting. However, the Namibian population has shown significant increases over the last two decades with new populations of seals establishing all along the coast. In terms of invertebrates, the rock lobster Jasus lalandii is of significant importance. The entire area inside port limits is a declared rock lobster sanctuary.

Biodiversity and ecosystem services are of particular importance to the tourism, agriculture and fisheries sectors in Namibia, which alongside mining, form the basis of the Namibian economy. Around 70 per cent of Namibia's population also depends on the natural resource base for their income; food; medicinal needs; fuel and shelter. Against this background, the maintenance and enhancement of biodiversity and ecosystem health is of vital importance to Namibia's socio-economic development (MEFT – Convention of biological diversity, 2014).

5.2 SOCIO ECONOMIC

The Port of Lüderitz is situated in one of the oldest towns in Namibia, dating back to the late 19th century. Originally established as mainly a fishing and mining town, these two natural resources remain the main economic drivers of the town and port. Due to the town's development around the port, some of the historic buildings of the town are close to the port. A number of tourist establishments are found along the access route to the port and on Shark Island, west of the port. The port is surrounded by a variety of land uses including residential, business and industrial zones.

On land, Lüderitz is surrounded by the Sperrgebiet National Park which falls under the management of the Ministry of Environment and Tourism. Due to the diamond mining activities in the Sperrgebiet National Park, most of its area is off limits to the general public and tourists. The Sperrgebiet National Park covers approximately 26 000 km^2 and falls mainly within the Succulent Karoo Biome which is characteristic of high species diversity and endemism.

5.2.1 DEMOGRAPHY

Namibia is one of the least densely populated countries in the world (2.8 person per km^2). Vast areas of Namibia are without people, in contrast to some fairly dense concentrations, such as the central-north and along the Kavango River.

The !Karas Region showed a population increase of 1.1%. This is less than the Namibian intercensal growth rate of 1.4%. For the same period, Lüderitz however, showed a decline in

population size of 5.6% and had a population size of 12 537 in 2011 (NSA, 2017). The remoteness of Lüderitz, and the lack of employment and economic diversification opportunities, possibly contribute to this decline. This may lead to some inhabitants relocating to other urban centres offering better prospects.

5.2.2 GOVERNANCE

Namibia is divided into 14 regions, subdivided by 121 constituencies. The !Karas Region is divided into seven constituencies. Each region has a regional council, elected during regional elections per constituency. Towns are governed through local authorities, in the form of town councils.

The !Karas Region is the southernmost and least densely populated of the 14 regions of Namibia; its capital is Keetmanshoop. The name assigned to the region reflects the prominence of the Karas mountain range in its southern part. The !Karas Region contains the municipality of Keetmanshoop, the towns of Karasburg, Lüderitz and Oranjemund, and the self-governed villages of Aroab, Berseba, Bethanie, Koës and Tses.

5.2.3 EMPLOYMENT

The rate of unemployment is estimated at 33.4% for Namibia, using the broad definition of unemployment. More than 60% of the population is over 15 years of age and about one-third of the total population can be regarded as part of the labour force. The unemployment rate in rural and urban areas is almost the same – 33.4% in urban areas and 33.5% in rural areas. The highest unemployment rates are found amongst persons with education levels lower than junior secondary. The unemployment rate of persons with no formal education is 28.6%, with primary education 34.6% and with junior secondary education 32.7% (NSA, 2019). Lüderitz has an unemployment rate of 28.2% which is slightly lower than the rate of 32.2% of the Karas Region (NSA, 2017).

5.2.4 ECONOMY

Since 2016, Namibia recorded slow economic growth, registering an estimated growth of only 1.1% in 2016. The primary and secondary industries contracted by 2.0 and 7.8% respectively. During 2017 the economy contracted by 1.7, 0.7 and 1.9% in the first, second and third quarters respectively (NSA, 2019). Despite the more positive expectations, the economy retracted to an average growth of not more than 1% annually since 2017.

The !Karas Region is a predominantly small stock-farming community, consisting mostly of animals such as sheep or goats. Game farming and irrigation farming along the Naute Dam and the Orange River have gained significantly in importance.

Notable characteristics of the region include the harbour town of Lüderitz and its fishing and boat-building industry, the diamond areas along the coast—both on and off shore—with Oranjemund as the main centre, mining enterprises in the southern part of Namibia (Klein Karas area, Rosh Pinah), the Kudu Gas field in the Atlantic Ocean near Lüderitz, and small-scale industries in Lüderitz and Keetmanshoop. Mining is a significant contributor to the country's GDP and mainly to the !Karas Region economic sector, with diamonds, uranium, copper, lead, and zinc as mineral resources.

Domestic flight operators regularly visit the coastal town of Lüderitz with the present airfield at Kolmanskop near Lüderitz on their way to Cape Town and Windhoek. Several points of interest have become important tourist attractions in and around Lüderitz. The economic growth potential of the area is considerable and the tourism industry has the potential for further expansion, but needs an intensive general development policy. Considering the national and international Covid-19 restrictions, there has been a decline in the tourism industry. The Karas Region's profitable tax-generation system predominantly comes from diamond mining.

5.2.5 HEALTH

Since independence in 1990, the health status of Namibia has increased steadily with a remarkable improvement in access to primary health facilities and medical infrastructure. In 2015 the World Health Organization (WHO) recommended strategic priorities of the health system in Namibia which entail improved governance, an improved health information system, emergency preparedness, risk reduction and response, preventative health care and the combating of HIV/AIDS and TB (WHO, 2016). According to the MoHSS health facility census (MoHSS, 2009) the !Karas region only has a recorded 19 health care facilities and have the lowest occupancy rate.

At the beginning of 2020 the coronavirus disease (COVID-19), caused illness in humans at a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak is adversely affecting various socio-economic activities globally, and with reports of the increasing number of people testing positive, it is anticipated that this may have significant impacts on the operations of various economic sectors in Namibia too. The disease caused many countries to enter a state of emergency and lockdown mode, with dire economic consequences. In addition, these measures have a detrimental effect on the economy – and Namibia is in both cases no exception.

5.2.6 HERITAGE

Archaeological sites in Namibia are fully protected under the National Heritage Act No. 27 of 2004. The archaeological evidence shows that early man frequented the coastal zones of southern Namibia from 1.5 million years. Archaeological sites in the Lüderitz area consist mainly of small surface scatter of stones artefacts debris, as well as small shell middens composed mainly of various limpet species, with osteological evidence of penguin, fish, and seals on more recent sites (Kinahan, 2016) (DBMN EIA report, 2019).

In the surrounding area of Lüderitz there are more points of interest such as Bogenfels, Kolmanskop (a ghost town) and the Restricted Diamond Area, which invites more tourist to visit the town. Some of the neighbouring infrastructure that may be of close vicinity to the proposed development may include the guesthouses such as The Cormorant House, Kairos Cottages and the Shark Island campsite (Figure 7). No heritage sites are found within the Port of Lüderitz neither along the designated route from the refinery.

FIGURE 7 - POINTS OF INTEREST IN LÜDERITZ

The proposed construction site falls within the Port of Lüderitz on Shark Island with a previously disturbed footprint and the port is an operational industrial area that has already been disturbed during construction of the initial port infrastructure. No archaeological sites are expected to occur on site. In an event that an archaeological remain is unearthed during the construction phase, any such resource shall be reported to Namport who in turn shall notify the National Heritage Council of Namibia in Windhoek, for their review and assessment. No heritage buildings are in close proximity to the proposed project site area and the proposed project will not destruct any tourism attractions or cause any change in the sense of place, as the project will be in an already industrial operating zone.

5.2.7 TRAFFIC ASSESSMENT

Based on the investigation and transport route assessment from (Oranjemund to Rosh Pinah to Lüderitz) carried out by Innovative Transport Solutions (Pty) Ltd, concludes that the expected additional truck trips that would be generated by the proposed project is relatively low. These additional truck trips could be accommodated for the existing (2021) as well as full (2037) production period (Appendix E).

- Weight Limit: The Gross Combined Mass (GCM) of the trucks (56 tons) would be less than the weight limit restriction of the bridge (58 tons) at the Oranjemund border post. Hence these trucks would be able to safely use this bridge.
- Width Restrictions: The movement of the trucks (2,6m wide) would not be limited by the (3,3m) width restriction at the Oranjemund border post bridge.
- Height Restriction: Since the height of the interlink- and tanker trucks are 3.766m and 3.644m respectively, the height limit restrictions along this route would not result in any constraints for trucks.
- Animals Ahead: The trucks that are going to transport the zinc sulphide concentrates and sulphuric acid would operate for 12 hours of the day only (from 6:00 AM to 6:00 PM), during good daylight conditions. Hence, any potential conflict between vehicles and animals should be unlikely and therefore not an issue.
- Road curves: The current curves ahead warning signs should be sufficient; hence no additional signage is proposed.
- Sand Dunes: Sand on the road or shoulder of the road is a potential safety hazard. It is recommended that more regular maintenance be done by the relevant road authority, to remove sand from the roads and shoulders.
- Roundabouts: No additional upgrades are proposed at these roundabouts.
- Railway Crossings: For the trucks crossing at railway intersection, it is recommended that the safety of the current road over rail level crossing be reviewed by TransNamib, and if necessary additional safety measures should be implemented.

- Pedestrians / Cyclist: It is recommended that pedestrian crossing warning signs be provided along the B4 at the Aus access / intersection.
- Lüderitz Site Circulation: The truck circulation on-site should only occur in a forward direction. Any reversing of trucks should be kept to a minimum and only within areas that are closed off to general public movements.

5.2.8 NOISE ASSESSMENT

A noise assessment was conducted on the 13-18 April 2021, on the designated route between Oranjemund through the towns of Rosh Pinah, Aus and to Lüderitz. Airshed Planning Professionals (Pty) Ltd, a firm that specialises in all aspects of air quality, ranging from neighbourhood concerns to regional air pollution impacts was appointed to conduct the modelling and assessment process. Airshed identified 22 points to be monitored for day and night-time noise level measurements, for the Namzinc proposed activities of transportation and bulk storage and handling facility developments. These areas were chosen based on the sensitivity of the areas in terms of proximity to property owners along the proposed designated route. During the noise assessment, factors such as strong winds and national Covid-19 travel restrictions were limiting factors for the survey.

The main objective of the noise specialist study was to determine the potential impact on the acoustic environment and noise sensitive receptors (NSRs) as a result of the proposed project and to recommend suitable management and mitigation measures.

In the assessment of simulated noise levels, reference was made to the IFC noise level guidelines for residential, institutional and educational receptors (55 dBA during the day and 45 dBA during the night) which is also in line with the SANS 10103 rating for urban districts. The baseline acoustic environment was described in terms of the location of NSRs, the ability of the environment to attenuate noise over long distances, as well as existing background and baseline noise levels. The baseline noise levels were measured at 22 sites and were co-located with potential NSRs.

Noise emissions from mobile and non-mobile equipment were estimated using predictions for industrial machinery. The source inventory, local meteorological conditions and information on local land use were used to populate the noise propagation model.

The noise sources of the project include:

- Interlink truck traffic – for the transport of zinc concentrate from the Oranjemund border post to the Namzinc Refinery);
- Tanker truck traffic – for the transport of sulphuric acid from the Namzinc Refinery to the Port of Lüderitz); Pumps – for the unloading and loading of the sulphuric acid; and,
- Piling work – during construction for the acid storage area at the Port of Lüderitz.

Sampling was carried out using a Type 1 sound level meter (SLM) that meet all appropriate International Electrotechnical Commission (IEC) standards and is subject to calibration by an accredited laboratory. IFC defines day-time as between 07:00 and 22:00 and night-time between 22:00 and 07:00. As the project activities are limited to the operational hours of 06:00 – 18:00, day-time representative samples were taken at all sites and night-time samples were taken in the early morning at representative sites along the project route, so as to be representative of project activities

Given the extent of the project, the propagation of noise was calculated over residential areas (i.e., Rosh Pinah, Aus and Lüderitz) and the start/end points of the route sections (i.e., Oranjemund border post, Namzinc Refinery and Lüderitz Port). The areas were divided into a grid matrix with 20 meter resolution. The model was set to calculate sound pressure level (in dB) at each grid and discrete receptor point at a height of 1.5 m above ground level.

The sampling points were selected based on proposed project activities and position of sensitive receptors (Figure 8). The selected survey locations for some sites had to be adjusted once in the field due to accessibility and community interference. Night-time noise measurements were restricted to the early hours of the morning so as to be representative of the project operational times. All construction and operation activities were assumed to take place from 06:00 – 18:00. Decommissioning phase was not assessed but environmental noise impacts are assumed to be similar to construction activities.

Based on the findings of the assessment, IFC guidelines may be exceeded at NSRs closest to the project operations (construction activities). The proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA (refer to Appendix F for a detail noise assessment report).

FIGURE 8 - LOCATIONS OF ENVIRONMENTAL BASELINE NOISE SURVEY

6 IDENTIFICATION AND EVALUATION OF IMPACTS

The key stage of the ESIA process is the impact prediction and evaluation stage. This stage is the process of bringing together project characteristics with the baseline environmental characteristics and ensuring all potentially significant environmental and social impacts are identified and assessed. Impact prediction and evaluation involve envisaging the possible changes to the environment as a result of the proposed project. The recognized methodology was applied to determine the magnitude of impact and whether or not the impact was considered significant and thus warrant further investigation. The assessment considers all stages of the project's life cycle that is scoped into the assessment and is presented in this report. It is an iterative process that commences at project inception and runs through to the final design and project implementation (construction and operations). The impact prediction and evaluation stages were undertaken in March to May 2021 and the findings of the assessment are presented in this document.

6.1 INTRODUCTION

Chapter 2 provides an overview of the approach used in this ESIA process and details each of the steps undertaken to date. Predication and evaluation of impacts is a key step in the EIA process. This chapter outlines the methods followed to identify and evaluate the impacts arising from the proposed project. The findings of the assessment are presented in this chapter.

This chapter provides the following:

- Details on the assessment guidance used to assess impacts;
- Lists the limitations, uncertainties and assumptions with regards to the assessment methodology;
- Details how impacts were identified and evaluated, and how the level of significance was derived; and
- Details how mitigation was applied in the assessment and how additional mitigation was identified.

6.2 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

The following limitations and uncertainties associated with the assessment methodology were observed:

- Topic specific assessment guidance has not been developed in Namibia. A generic assessment methodology was applied to all topics using IFC guidance and professional judgement.

A number of limitations and uncertainties were acknowledged during the ESIA process. In line with ESIA best practice, assumptions have been made based on realistic worst-case scenarios, thereby ensuring that the worst-case potential environmental impacts are identified and assessed. Table 6 contains the assumptions and uncertainties identified during the assessment process.

Where uncertainties exist, a cautious approach has been applied, allowing the worst-case scenario for potential impacts to be identified. Where limitation and uncertainties exist, assumptions have been made and applied during the assessment process. These have been clearly described in the baseline section.

TABLE 7 - SUMMARY OF LIMITATION, UNCERTAINTIES AND ASSUMPTION OF THE EIA PROCESS

LIMITATION / UNCERTAINTY	ASSUMPTION
Program of activities	It is envisioned that work will take place over an initial one year period. A detailed timeline of the activities is not available at this point in time, activities will be modified depending on work results.
Number of employees and area they will come from	It is planned that a full-time team will comprise of staff members and contract employees, only then will the number of employees will be confirmed as the construction phase matures. Moreover, staff will be sourced from the nearby local authority areas such as Lüderitz, Aus and Rosh Pinah.
Wind dynamics including modification of wind patterns after facility constructed	It is assumed that the proponent's technical team have considered general wind dynamics along the coastline and the potential effects (if any) of the development on normal wind patterns during the design phases of the development, and therefore not considered further.
Agreements	It is assumed that all agreements regarding connections to existing infrastructure and the necessary storage facility construction thereof, the use of facilities and support services are in place prior to the commencement of the project as per the agreement between the Port of Lüderitz and proponent.

Where uncertainties exist, a cautious approach has been applied, allowing the worst-case scenario for potential impacts to be identified.

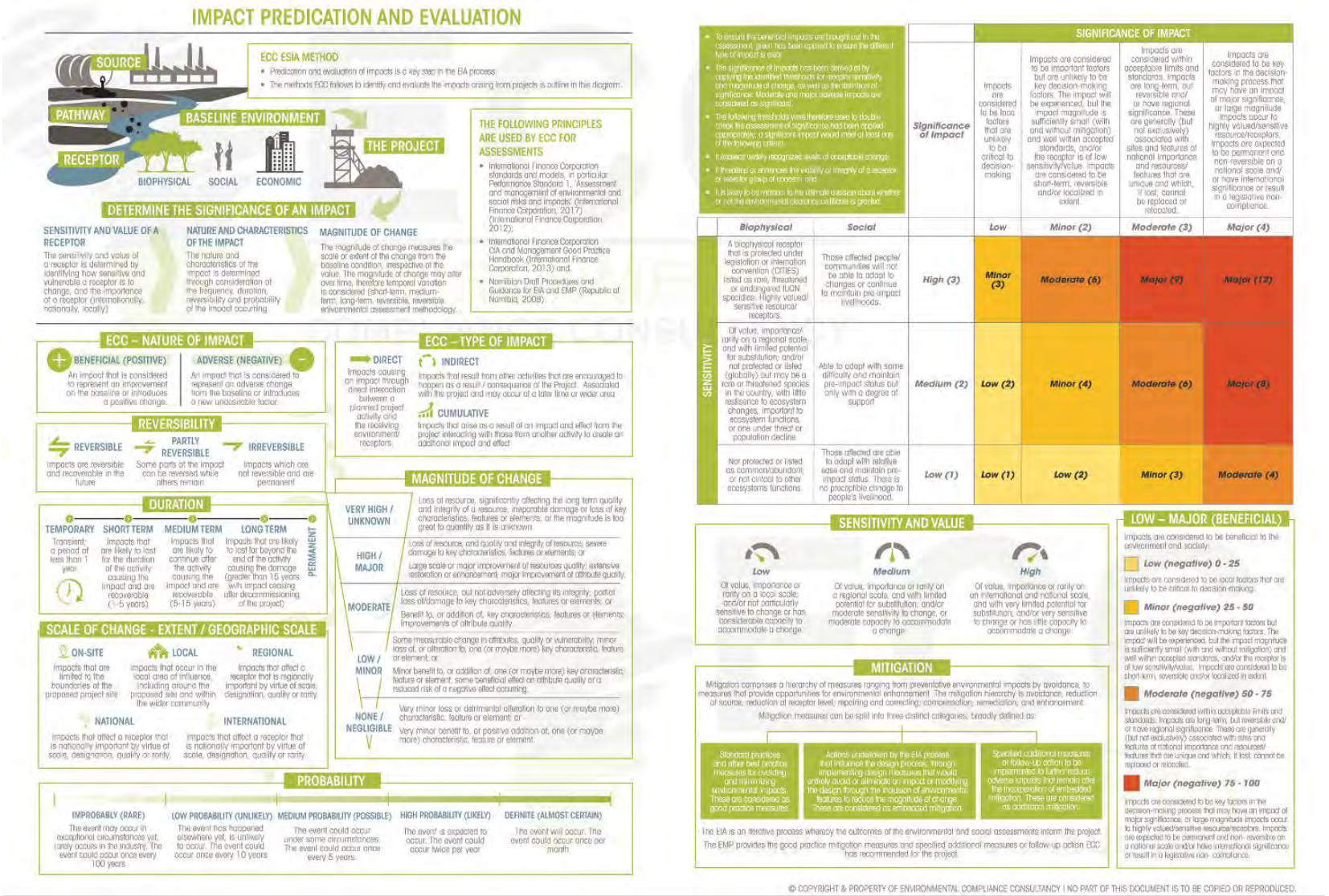

FIGURE 9 - ECCS IMPACT PREDICTION AND EVALUATION PROCESS

7 IMPACT ASSESSMENT FINDINGS AND PROPOSED MITIGATION MANAGEMENT MEASURES

This chapter presents the findings of the ESIA for the proposed project as per the ESIA process, scope and methodology set out in Chapter 2 and Chapter 6. A range of potential impacts have been identified that may arise as a result of the proposed project. The aim of this ESIA report is to focus on the significant impacts that may arise as a result of the proposed project. This chapter therefore only considers the significant impacts and or those that may have specific interest to the community and stakeholders. A summary of impacts that are considered significant is discussed in this section.

When undertaking the assessment exercise, the design of the proposed project and best practice measures were considered to ensure the likely significant effects and any required additional mitigation measures were identified.

For each potential significant or sensitive impact, a summary is provided which includes the activity that would cause an impact; the potential impacts; embedded or best practice mitigation (stated where required / available); the sensitivity of receptor that would be impacted; the severity, duration and probability of impacts; the significance of impacts before mitigation and after mitigation measures are applied.

A summary of impacts that are not considered significant is discussed in Section 7.1.

7.1 IMPACTS NOT CONSIDERED SIGNIFICANT

As a result of an iterative development process, mitigation has been incorporated and embedded into the project, thereby designing out potential environmental and social impacts or reducing the potential impact so that it is not significant. Best practice has also played a role in avoiding or reducing potential impacts. The EMP provides best practice measures, with practical management and monitoring for all impacts.

Impacts that have been assessed as not being significant are summarised in table 6 below and not discussed further.

TABLE 8 - SUMMARY OF NON-SIGNIFICANT POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
Waste management (construction and operation phases)	The construction and operation activities will produce solid waste.	The proponent will develop a waste management plan to counter the impact of waste generation and dispersal on and surrounding the site.
Community	Potential impact of ambient noise and light as	The proposed project is considered to be of a medium size, with construction envisioned to be

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
	a result of machinery use, and vehicle movement during the construction phase	completed in a year's period of time. The proposed project will implement energy efficient technologies and will be built to consider that. All operations will run between 6am to 6pm.
Visual Impacts	Construction machinery, tall and elongated plant equipment (i.e., cranes) and construction vehicles may cause minor to negligible visual disturbance to onlookers and motorists passing the site.	The Port of Lüderitz is already barricaded by high boundary walls and buildings, which effectively hide the barren scenery inside the port and the proposed storage facility during construction. After construction has ended, the completed facility will remain as a permanent feature in the Port of Lüderitz. The visual amenity of the facility will fit in with the surrounding buildings within the same vicinity.
Cultural heritage	Potential to uncover heritage remains during project activities.	Findings are unlikely, as no known heritage sites are mapped and protected in the project area. The site also has a tried and tested chance find procedure built into the EMP in place, in the very unlikely event a heritage find is discovered.
Increased people/foot traffic in the immediate vicinity. (Construction phase only)	Increased footfall in the project area and surrounding vicinity.	Potential risk of negative social interactions to occur between the workforce and the public. An internal Health and Safety Management Plan will be developed by the client to address this topic and mitigation measures provided.
Air Quality	The construction of the proposed project building may discharge limited air pollution.	During construction, excavation activities will discharge some form of air pollution into the atmosphere and marginally affect the ambient air quality of the vicinity. Power efficient tools/machinery should be used. Dust should be included in the assessment; due to the risk it may pose to human receptors during construction and mitigation measures are assigned to it in the EMP.
Climate change adaptation	The potential for climate change to impact the proposed project – i.e., sea level rises and storm	The proposed project building will not be adversely affected by potential climate change impacts due to sea-level rises which are predicted to be between 6-25cm up to year

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
	surges.	2030 (Robertson, Jarvis, Mendelsohn, & Swart, 2012) compared to the site elevation of 9-12m above sea level.
Climate change cause / contribution	The proposed project contributing to climate change through the emissions of Green House Gasses.	The proposed project is considered to be of a medium size, with construction envisioned to be completed after several months from inception.
Community	Potential safety risk to pedestrians and motorists using the railway crossing	The railway crossing point has sufficient warning signs and therefore no additional risks are anticipated. This impact was considered to be non-significant.
Community	Potential safety risk to pedestrian and cyclist along the B4 at the Aus access / intersection	The general national traffic regulations require road users to reduce their speed to 60km/h within town boundaries and within town centres to 40km/h. This speed enables road users to easily brake and come to stand still when necessary. The proponent and its business partners shall adhere to national road use requirements as well as internal controls enforced on driver behaviour.

Due to the nature and localised scale of the construction and operation activities, and the environmental context of the project area, the potential environmental and social effects can be limited. The area where uncertainty remained during the scoping phase was the potential effects on human receptors from the predicted use of the facility and correlating impact on the site's operational activities with the increase in traffic and noise levels during construction and assembling of the facility. The receptors are the neighbouring stakeholders such as the waterfront restaurants, tourist attraction and points of interest. Noise impacts are unlikely to have any effect on the coastal and marine organisms.

7.2 SIGNIFICANT ISSUES TO BE ADDRESSED

Table 9 below contains potential impacts that have been identified as significant.

TABLE 9 - LIST OF POTENTIAL SIGNIFICANT IMPACTS SCOPED INTO THE ASSESSMENT

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF PRELIMINARY ASSESSMENT FINDINGS
Additional heavy traffic volume and flow within the storage site and via the designated route to the Port.	Potential incidents due to improper planning of traffic directional infrastructure within the storage site and via the designated route to the port.	The assessment has considered appropriate traffic in and out flow optimisation mechanisms as well as parking within the storage yard to avoid bottlenecks and potential incidents. It was recommended that truck circulation on-site should only occur in a forward direction. Any reversing of trucks should be kept to a minimum and only within areas that are closed off to general public movements.
Potential sulphuric acid seepage/spillage into the environment, including the coastal environment	The potential impact likely to occur from a voluminous acid spill event (i.e., total loss of containment) may include: – Terrestrial and onshore/coastal biodiversity destruction.	The potential contamination of the immediate receiving environment surrounding a spill point should be assessed for its likely significance and assigned appropriate mitigation measures. Mitigation and management measures will be stipulated in the EMP
Fire risks may potentially occur in the presence of vapours within or around the tanks	Operational activities may increase the risk of fire occurrences. Fire risks may result in property damage, possible injury/death and impacts of uncontrolled fires and explosions on site, which might further result in a significant volume of sulphuric acid being released into the environment.	The proponent will ensure that only compatible chemicals and products will be stored within proximity to the acid. Authorisation from the port master will be obtained prior to construction to ensure no other incompatible products are within the same vicinity. It is advised that no hot works is to be done close to the storage tanks. With the mitigation measures stipulated in the EMP, such as a fire Fire occurrences were deemed unlikely or rare in this assessment,

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF PRELIMINARY ASSESSMENT FINDINGS
		as sulphuric acid is neither combustible nor flammable.
Possible corrosion of the proposed storage facility due the corrosive nature of sulphuric acid and surrounding marine environment	The potential impact likely to occur from the corrosive nature of sulphuric acid may result to the corrosion of the storage tanks and surrounding site area. This could lead to possible fire explosions, once the tanks shell has been breached and sulphuric acid has come into contact material where the exothermic reaction causes a fire.	The proponent will ensure that the bund and any acid capturing area is coated with an anticorrosive protector that prevents corrosion. The storage tanks will be inspected regularly for any holes, visual effects, damages or breaching as a result of corrosion. Furthermore, the tanks will be level monitored on an electronic system linked to an alarm/notification system. In the event a level difference is detected the system will immediately inform the operators. This system will be tested regularly as part of the planned maintenance schedule.

7.3 SCOPING ASSESSMENT FINDINGS

Impacts that are considered significant or those of interest to the community and stakeholders are as follows:

- Socio-economic: Direct and Indirect Employment;
- Social: The need for the project and its potential to impact the tourist attractions and points of interests;
- Biophysical environment: Potential contamination to the marine aqua life, groundwater and birdlife; and
- Ambient noise as a result of machinery use, and vehicle movement to receptors.

7.4 SOCIO-ECONOMIC ENVIRONMENT

The term socio-economic impact assessment embraces both social impacts and economic impacts. Economic impacts include issues such as employment, changes in economic activity, and increased expenditure. The significant economic impact or impact that holds specific interest to the community and stakeholders is employment creation and is summarised in this section.

7.4.1 EMPLOYMENT

Whilst Namibia has a medium unemployment rate, the Karas Region has one of the highest employment rates in Namibia. In Lüderitz, most of the employment is through the fishing sector, which to a large degree is developed, but not diverse. Mining in the Karas Region also employs a large number of local residents. The national value and sensitivity of employment is considered to be high as it is of importance to the country and the local economy.

DIRECT EMPLOYMENT: CONSTRUCTION

Approximately 10 to 20 jobs will be generated during the construction phase. The proponent will employ local people wherever possible and feasible to fulfil the roles. Construction work will take approximately a year; the beneficial impact of creating 10 to 20 temporary jobs will result in a temporary impact with a low magnitude of change. A minor beneficial impact on the community and economy is therefore expected.

DIRECT EMPLOYMENT: OPERATION

Approximately 5 to 10 permanent jobs (skilled and semi-skilled) will be created in the operational stage as a direct result of the project, with the anticipated creation of downstream jobs such as goods procurement services, and contractor works expected throughout the lifespan of the project. The magnitude of change during operation is considered as low but has long term effects thereby resulting in a minor beneficial impact on the community and economy.

SUMMARY OF EMPLOYMENT IMPACTS

TABLE 10 - SUMMARY OF IMPACTS TO LOCAL ECONOMY

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Construction works - general	– Community – Job seekers – Local economy	Creation of 10 to 20 jobs for construction period	Beneficial Direct Partially Reversible Regional Short Term Reversible	Medium	Minor	Beneficial Minor (9)
Operations of the proposed project	– Community – Job seekers – Local economy	Creation of 5 to 10 jobs	Beneficial Direct Irreversible Regional Long Term Reversible	Medium	Minor	Beneficial Minor (9)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Downstream economic injection (multiplier effect)	– Local economy (goods and services trade businesses)	Financial injection into goods and services trading businesses in the local economy	Beneficial Indirect Partially Reversible Local Long Term Reversible	Medium	Minor	Beneficial Minor (9)

7.5 SOCIAL ENVIRONMENT

7.5.1 NOISE IMPACTS AND GASES EMITTING FROM THE STORAGE FACILITY SITE

Construction activities and related traffic in the vicinity may increase noise levels emanating from the site, as well as gases emitting from the site during the operation phase. The duration of construction activities is envisioned to last for one year and would therefore exert an impact on visitors to amenities neighbouring the development site. The main sources of noise during the construction phase will be from construction vehicles moving on site and general construction activities such as drilling and loading and unloading material.

The proposed project site is in an industrial zone, human receptors will unlikely be affected by the construction works. Receptors within 200 meters of the site boundary fence of the proposed development will likely experience disruption from noise, however noise will reduce the further away from the site the receptor is. It is important to note that outside baseline conditions are characterised by strong east winds.

A noise impact assessment was conducted to determine baseline conditions and suitable mitigation measures to manage noise related impacts. The proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA. The speed of the trucks should be adhering to 40km/h within town centres, 60 km/h through residential areas and 80 km/h on the highways.

Experience of complaints associated with industrial noise sources from stakeholders surrounding the Port of Lüderitz indicates that the likelihood of complaint increases as the difference between the industrial noise and the existing background noise increases. However, it is generally assumed that a greater difference might be tolerated, than for an industrial source, when it is known that the operations are of short or limited duration, and the critical issues are likely to include interference with speech communication and/or sleep disturbance.

In general, the longer the duration of activities on a site, the more likely it is that noise from the site will prove to be an issue, assuming NSRs are likely to be significantly affected. In this context, good public relations and communication are important. Local residents might be willing to accept higher levels of noise if they know that such levels will only last for a short time. It is then important that construction activities are carried out in accordance with the stated schedule and that the community is informed of their likely durations.

Noise from equipment can often be reduced by modification or by the application of improved sound reduction methods, but this should only be carried out after consultation with the manufacturer.

For steady continuous noise, such as that caused by diesel engines, it might be possible to reduce the noise emitted by fitting a more effective exhaust silencer system or by designing an acoustic canopy to replace the normal engine cover. Any such project should be carried out in consultation with the original equipment manufacturer and with a specialist in noise reduction techniques. The replacement canopy should not cause the engine to overheat nor interfere excessively with routine maintenance operations.
Noise levels can be unacceptable in many instances, and reductions in noise level are desirable for the benefit of both the industry and the public. Piling works frequently form one of the noisier aspects of construction. Piling is usually one of the first activities to be carried out on site, and special precautions should be taken to mitigate the disturbance created, particularly in noise-sensitive areas. Those undertaking piling works should endeavour to ascertain the nature and levels of noise produced by the mechanical equipment and plant that will be used. They should then take appropriate steps to reduce either the level or the annoying characteristics, or both, of the noise.

Impact noise when piling is being driven can be reduced by introducing a non-metallic dolly between the hammer and the driving helmet. This will prevent direct metal-to-metal contact but will also modify the stress wave transmitted to the pile, possibly affecting the driving efficiency. The energy absorbed by the dolly will appear as heat. Further noise reduction can be achieved by enclosing the driving system in an acoustic shroud. Several commercially available systems employ a partial enclosure arrangement around the hammer. It is also possible to use pile driving equipment that encloses the hammer and the complete length of pile being driven, within an acoustic enclosure.

The duration of piling work is usually short in relation to the length of construction work as a whole, and the amount of time spent working near to noise-sensitive areas might represent only a part of the piling period. Furthermore, the noisiest part of the pile construction process might occur at each individual pile location only for a short period of time.

The recommended mitigation measures for consideration include restricting operation hours, traffic calming measures, defined routes to and from the site, maintain boundary fence, scheduling of noisy activities, and notice to community prior to noisy activities.

The potential for gases emission from the site during operation was assessed. Sulphuric acid is mainly a clear, colourless to yellow, odourless and oily liquid with a low viscosity. Although it is odourless, it has a choking odour when heated. In high concentrations,

sulphuric acid may smell like rotten eggs. The impact of foul odour being released as a result of the sulphuric acid storage is unlikely during the operation phase and any effects will be short-term depending on the activities at hand. Operators on site should always were appropriate PPE when handling the acid. The predominant wind direction in Lüderitz is from the south. In an event of a release of high concentration of odours, stakeholders up stream or north of the port may be impacted and the duration of the impact will be temporary.

TABLE 11 - IMPACTS OF NOISE FROM CONSTRUCTION ACTIVITIES AND GASES EMITTING FROM OPERATION ACTIVITIES

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Construction activities and increased traffic during the operation phase	– Stakeholders surrounding the project site: Noise levels increasing from ambient noise levels	The neighbouring stakeholder's surrounding the proposed project site are likely to experience an increase in noise levels due to general construction activities, and are also likely to experience an increase in noise due to increased traffic levels.	Adverse Cumulative reversible Moderate Temporary local Likely	Medium	Moderate	Minor (4)
Possible release of gases during operational activities such as while stevedoring and pumping into the storage tanks	– Stakeholders surrounding the project site: Change in the atmospheric air quality with increasing gases from the storage facility – Operator/employees	The neighbouring stakeholder's surrounding the proposed project site are likely to experience a change in the atmospheric air quality due to operational activities causing a release of gases into the environment. This may potentially	Adverse Direct Reversible Minor Temporary local Unlikely	Low	Minor	Minor (4)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
		result into the inhalation of concentrated vapour, which can be irritating to the upper respiratory tract.				

7.5.2 FIRE RISK OCCURRENCES ON SITE AND POSSIBLE CORROSION OF THE STORAGE TANKS

Sulphuric acid is very reactive and dissolves most metals, it is a concentrated acid that oxidizes and dehydrates most organic compounds, often causes an incomplete combustion. Sulphuric acid reacts violently with alcohol and water to release heat. It reacts with most metals, particularly when diluted with water, to form flammable hydrogen gas, which may create an explosion hazard. Sulphuric acid is not combustible and does not burn itself, but it is a strong oxidizer that enhances the combustion of other substances. During fire, poisonous gases are emitted (Saeid, *et al*., 2014).

The proponent will ensure that only compatible chemicals and products would be stored within proximity to the acid. Authorisation from the port master will be obtained prior to construction to ensure no other non-compatible products are within the same vicinity. It is advised that no hot works is to be done close to the storage tanks, without the required hot work permits. With the mitigation measures stipulated in the EMP, such as a fire protection and a prevention plan, with inclusion of an emergency response and firefighting, fire risk can be managed and mitigated. The assessment finds that the occurrences of fire will be rare and unlikely as sulphric acid is non-flammable nor combustible.

The proponent will ensure that the bund and any acid capturing area is coated with an anticorrosive protector that prevents corrosion. The storage tanks will be inspected regularly for any holes, visual effects, damages or breaching as a result of corrosion. Furthermore, the tanks will be level monitored on an electronic system linked to an alarm/notification system. In the event a level difference is detected the system will immediately inform the operators. This system will be tested regularly as part of the planned maintenance schedule. Repair and renovation of the storage tanks should be part of the proponent's long-term maintenance plans and standard operating procedures for the proposed facility.

TABLE 12 - IMPACTS OF FIRE RISKS OCCURENCES AND POSSIBLE CORROSION OF STORAGE TANKS

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
During the operational phase, fire risks may potentially occur on site due to hot work ignited flammable vapours within the tanks	– Stakeholders surrounding the project site – The Port of Lüderitz tents – Community	Operational activities may increase the risk of fire occurrences. Fire risks may result in property damage, possible injury/death and impacts of uncontrolled fires and explosions on site, which might further result in a significant volume of sulphuric acid being released into the environment.	Adverse Indirect Partially reversible Moderate Short-term On site Rare	Medium	Moderate	Low (2)
Possible corrosion of the proposed storage facility due the corrosive nature of sulphuric acid	– Stakeholders surrounding the project site – The Port of Lüderitz tents	The potential impact likely to occur from the corrosive nature of sulphuric acid may result to the corrosion of the storage tanks and surrounding site area, which could lead to possible fire explosions, once the tanks shell has been	Adverse Indirect Partially reversible Moderate Medium-term On site Possible	Low	Moderate	Low (2)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
		breached and sulphuric acid come into contact material where the exothermic reaction causes a fire.				

7.5.3 TRAFFIC IMPACTS FROM CONSTRUCTION AND OPERATION ACTIVITIES

During construction, increased traffic to and from the project site may disrupt normal traffic flow for the Lüderitz town. This could potentially impact local residents will be felt as the need to find alternative routes through the area may be necessitated, increasing traffic flow times. This may result in the increased traffic congestion on the road to the port and within, increase in the risk of incidents, result in deterioration of road surfaces, and cause vibration related damage to existing infrastructure. The developer is responsible for ensuring a practical traffic management plan is implemented to manage the potential effects on traffic conditions surrounding the site so as to reduce the level of significance on sensitive receptors. A traffic impact assessment was carried out to determine baseline conditions and suitable mitigation measures to manage traffic related impacts.

Vehicles such as trucks and tankers during construction and operation should not be allowed to obstruct any traffic or access points to any other businesses and facilities on the routes through Lüderitz. If any extraordinary traffic impacts are expected, traffic management should be performed in conjunction with local traffic department, to prevent these. Traffic regulation to and from the port should be adhered to.

TABLE 13 -IMPACT ASSESSMENT OF THE PROJECT ON TRAFFIC

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Traffic flow (community and local residents) during construction	– Community – Local residents – Visitors to the area – Pedestrians – Cyclists	Disruption to normal traffic flow from pre-construction baseline	Adverse Direct Reversible Minor Short-term Local Possible	Medium	Minor	Minor (4)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
		conditions				
Traffic flow (community and local residents) during operation	– Community – Local residents – Visitors to the area – Pedestrians – Cyclists	Disruption to normal traffic flow risks due to an increase in movement to and from the port during operations	Adverse Direct Reversible Moderate Short-term Local Possible	Medium	Minor	Minor (4)

7.6 BIOPHYSICAL ENVIRONMENT

7.6.1 SURFACE WATER QUALITY AND MARINE LIFE IMPACTS FROM CONTAMINANTS

The uncontrolled or incidental spillage of chemical such as hydrocarbons and or sulphuric acid during operation and transportation activities were considered to be a significant impact for this project, which could result in hazardous contaminants entering the environment, with potential impact on biodiversity, soil and the groundwater system. All spillages should be contained and managed as quick as possible to reduce the contaminated surface area and further spread. The potential impacts likely to occur from the de-containment of sulphuric acid on the existing baseline environment may include, contamination to sensitive receptors (water and soil) along the route chosen to transport the sulphuric acid through Rosh Pinah to the warehouse in the Port of Lüderitz and within the site.

Sulphuric acid will be stored in bulk tanks within the port's premises within the containment facility to ensure that any possible tank failure will be contained within the bunded area of a 110% size. Moreover, the bund will be built of cast and concrete with acid proof tiles to control any damage from incidental spills of the sulphuric acid. Appropriate material reinforcement will be carried out and its strength will be calculated, considering a worst-case scenario that the tanks or the bund's wall collapses. According to the (Earthquake tracker database, 2021), there is no record of any seismic activities (earthquakes and traumas) in the Lüderitz areas therefore the risk of collapsing are deemed low in this

assessment. In a case that any seismic activity is a potential risk, the design of the facility would need to be built accordingly, so that it can withstand earth traumas.

During stevedoring operations a procedural sequence will be established to ensure that valves to pipes will be opened in such a sequence that the acid concentrate pumping procedure into the vessels is done without spilling any acid from couplings. A decoupling procedure will be developed to ensure that the pipeline does not have residual acid before decoupling from the vessel occurs and shall be strictly enforced. Additionally, as a monitoring procedure of the facility, routine (monthly) maintenance inspections will be conducted on pipe couplings and a full visual inspection on the integrity of the line will be conducted before each loading. Mitigation measures are included in the EMP.

The design of the proposed storage facility (tanks, pipe work and walkway) will follow marine specification to limit corrosion risks caused by the harsh coastal environment factors and or exposure to the marine atmospheric conditions.

Other control measure will include inspection of the pipe work regularly, establishing lever meters in the tanks to ensure that any leak is detected early and mitigated. Should any failure occur, the only line of defence would be the containment bund that would hold a 110% capacity for one tank only. There is no secondary bunding and if a spill of more then 5000 litres is released into the environment, there is a potential risk of the acid flowing into the Lüderitz coastal environment causing risks of injury and disruption to the marine life, as well as destroying the marine habitants and quality of the surface water.

TABLE 14 - IMPACTS OF UNCONTROLLED AND INCIDENTAL SPILLS OF THE SULPHURIC ACID

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Potential sulphuric acid seepage/spillage into the environment, including the coastal environment during operational activities: incidental movements of trucks and machinery running into the	– Stakeholders surrounding the project site – The Port of Lüderitz tents – Marine life (rock lobster sanctuary) – Lagoons – Surface water	Operational activities may result in the potential of a voluminous acid spill event (i.e., total loss of containment) may include: Terrestrial and onshore/coastal biodiversity destruction.	Adverse Direct Partially-reversible Moderate Medium-term Regional Possible	Medium	Moderate	Moderate (6)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
storage tanks						

A summary of the potential impacts and mitigation and or control measures are discussed below.

Table 15 sets out the findings of the ESIA assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected. The pathway between the source and the receptor has been identified where both are present. Where an activity or receptor has not been identified, an impact is unlikely, thus no further assessment or justification is provided. Where the activity, receptor and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

TABLE 15 - IDENTIFICATION AND EVALUATION OF IMPACTS AND MITIGATION MEASURES

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Surface water quality	Site activities during construction (use of machinery); operational activities (handling and storage of the sulphuric acid); facility structure and maintenance activities may result in a loss of containment, incidental fuel / hydraulic fluid leaks and spills, or similar sources.	Hydrocarbon leaks and spills could enter the lagoons causing contamination and potentially affecting marine life and birdlife through habitat destruction.	Adverse Indirect Partly Reversible High Long term Regional Possible	Medium	Moderate	Moderate (6)	- Good house keeping - Training through toolbox talks and induction - All stationary vehicles and machinery must have drip trays to collect leakages of lubricants and oil - Spill kits and absorption material available during fuel delivery, storage or use - Incidental spills and leaks (including absorption material) to be cleaned as soon as possible - Major spills of 200L and more to be reported to the authorities - Maintenance and service schedules on equipment is in place - Storage of hazardous volume should be in adequate containment areas (non-porous surface, 110% bunded, within a fenced-in area)	Minor (4)

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							- Ensure integrity of containment with regularly inspections) - No damaged containers in use - Preventative measures will be in place when service and maintenance activities are done (drip trays, non-porous surfaces, funnels, non-damaged containers) - Ensure development of decoupling procedure	
Surface water quality	Discharge and infiltration of non-contained wastewater into the ocean	Wastewater can contaminate surface water resulting in the risks of loss of quality	Adverse Direct Reversible Moderate Short term Local Unlikely	Low	Minor	Low (2)	- Wastewater discharges should be contained - Employees should be made aware about the importance of wastewater management - Good housekeeping - Ensure prompt clean-up of spills - Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.	Low (1)

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							- Waste in the port area, in the harbour water, and on the coastline within port limits must be regularly removed and disposed of. - No waste streams may be directed into the ocean without a disposal permit and then only under conditions imposed by the permit conditions.	
Terrestrial ecology and biodiversity	Potential impact to residing birds and marine organisms such as the rock lobsters due to inadequate management of waste.	Waste items and litter can pollute surface water resulting into the disruption of marine life and coastal environment	Adverse Direct Reversible Moderate Short term On-site Unlikely	Medium	Minor	Minor (4)	- Good housekeeping. - Training and awareness through toolbox talks and induction. - Implement a Standard Operational Procedure (SOP) on waste management, from cradle to grave for all kinds of waste possible onsite (e.g. domestic, mineral, hydrocarbons, etc.) - Raise awareness about the importance of responsible waste management.	Low (2)

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							- Implement a culture of correct waste collection, waste segregation and waste disposal. - Hazardous waste and contaminated water and soil must be disposed of at an appropriately classified facility or by approved business partners. Hazardous waste disposal certificates must be kept on file.	

8 ENVIRONMENTAL MANAGEMENT PLAN

The EMP for the proposed project is presented in Appendix A. It provides management options to ensure the impacts of the proposed project are minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary.

The management measures should be adhered to during all stages of the construction activities. All persons involved and partaking in the proposed activities should be made aware of the measures outlined in the EMP to ensure activities are conducted in an environmentally responsible manner.

The objectives of the EMP are:

- To include all components of the development and operations of the project;
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- To monitor and audit the performance of operational personnel in applying such controls; and
- To ensure that appropriate environmental training is provided to responsible operational personnel.

9 CONCLUSION

ECC's ESIA methodology was used to undertake the environmental assessment for the proposed project to identify if there is potential for significant effects to occur as a result of the proposed project. Through the ESIA process, the risk identified to the environment was the potential impacts to surface water quality and to the coastal and marine environment, affecting the terrestrial and onshore/coastal biodiversity. Emergency response, supporting contingency and EMP should be implemented by the proponent and business partners for the proposed project during the construction and operation phase. Other significant impacts were related to traffic impacts and noise levels to increase thereby impacting neighbouring stakeholders as such human receptors in the area.

The neighbouring stakeholders are likely to experience minor impacts as a result of the combined impacts of the project site during operation. During construction, the neighbouring stakeholders are likely to experience minor impacts, however, the construction phase is expected to last for a short-term period. During construction an environmental and social representative should be available to consult with and deal directly with concerns and complaints raised. The environmental and social representative will work with the community to manage impacts from the proposed development during both construction and operation. Whilst the nature of the impacts will be of a short duration and the businesses will likely see long term benefits when the proposed project becomes operational, the proponent will work together to identify practical mitigation that would reduce the significance of the impact onto the receptors.

All other social and environmental receptors were scoped out as significant effects were unlikely and therefore no further assessment was deemed necessary. The assessment concludes that the likely significance of effects on humans from noise impacts is expected to be minor and prior awareness and communication about the project shall be encouraged. Various best practice and mitigation measures have been identified to avoid and reduce effects as far as reasonably practical, as well as ensure the environment is protected and unforeseen effect and environmental disturbances are avoided.

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APPENDIX A- EMP

APPENDIX B - NON-TECHNICAL SUMMARY

APPENDIX C - EVIDENCE OF PUBLIC CONSULTATION

The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 10th February 2021.

WEDNESDAY 10 FEBRUARY 2021 — Market Watch — Republikein Sun Allgemeine Zeitung 7

028 Huise te koop / Residential Prop. for Sale

CITY JUNCTION: Located in central Windhoek (CBD). Up-market studio/ bachelor apartment open-plan kitchen, bathroom, parking space for 1 car. Outdoor entertainment area, 24 hours security surveillance. Water & electricity pre-paid. Great investment opportunity. N$780 000 negotiable. Call 081-2119785 if interested.
DM02021003755 54

DORADOPARK: Located near three schools, IUM, NUST and town. Main dwelling: 3 Bedrooms with bic, 2 bathrooms, kitchen with bic, dining room, TV-room, lounge, study. Extras: 2 Outside rooms with shared toilet, single garage, braai area, shaded carport, boundary wall. Price: N$1 850 000, cost excluded. Selling below valuation. Call 081-8677279.
DM0202100377139

KLEIN WINDHOEK: N$3.5 mil, CC Reg. Price far below valuation. Urgent sale. Make an offer. House is on 3 levels. Ground floor 2 bedroom flat. 1st Floor 2 bedroom house. 2nd Floor entertainment area with built-in bar and braai. Huge balconies with loveliest views. Erf size 1 674 m². Carports with store room. Huge pool. Call Lusa CRE 081-1245668.
DM0202100377137

PRIVATE SALE! Huge Windhoek West house for sale. Business zoned with erf size of 1 200 m². Regretfully no agents. POR. Call 081-2230909.
DM0202100377116

031 Plaas te koop / Farms for Sale

BELANGRIKE KENNISGEWING: VERKOOP VAN PLAAS ORUMBO NORD No 199 – PER TENDER: Hiermee word kennis gegee dat die finale sluitingsdatum en tyd vir die indiening van tenders om bogenoemde eiendom te koop, op 12 Februarie 2021 om 10:00 sluit geen verdere uitstel vir die indiening van tenders sal deur die eksekuteur toegestaan word nie. Onthou tenders moet per E-pos na neels@cjgreeff.com gestuur word.
Die Eksekuteur: 081-1281816.
DM0202100377090

035 Regskennisgewings / Legal Notices

MUNICIPALITY OF HENTIES BAY NOTICE INTENTION TO LEASE A PORTION OF FARM HENTIESBAAI TOWN AND TOWNLANDS NO.133 SITUATED IMMEDIATELY ADJACENT TO THE NWR JAKKALSPUTZ CAMPING SITE (IN EXTEND 15HA) TO MESSRS BASIE INVESTMENT CC. By virtue of Council Resolution C05/04/11/2020/07/2020 and in terms of Section 63(2)(b) of the Local Authorities Act, (Act 23 of 1992), as amended, read in conjunction with Section 30 (1)(t) of the Local Authorities Act 1992 (Act 23 of 1992) as amended, notice is hereby given that the Municipal Council of Henties Bay intends to lease a portion of the Farm Hentiesbaai Town and Townlands no.133, measures in extend of 15 hectare at a nominal rate of N$0.10 (Ten Cents) p/m² amounting to N$15 000.00 (Fifteen Thousand Namibian Dollars Only) per month, with an option to purchase at a rate of N$25.00 p/m² which equates to N$3 750 000.00 (Three Million Seven Hundred and Fifty Thousand Namibian Dollars only) to Messrs Basie Investment cc for the purpose of developing an Aqua Marine Farming.
Further take note that the locality and the layout plan of the properties lie open for inspection during office hours at the offices of the Municipal Council situated at the corner of Jakkalsputz Road and Nickey Iyambo Avenue.
Any person(s) having an objection(s) to the intended alienation of the portion may lodge such objection(s) with fully motivation of such an objection to the undersigned, within fourteen (14) days after the second placement of the advert.
The Chief Executive Officer
P.O.Box 61
Henties Bay
DM0202100377149

LOSING CONTROL?
AA
ALCOHOLICS ANONYMOUS NAMIBIA
If you want to drink, that's your business. If you want to stop, that's ours.
WINDHOEK: 081-325 6144
SWAKOPMUND: 081 243 2649
E-MAIL: alcoholicsanonymousna@gmail.com

AL-ANON
HELP FOR RELATIVES OF ALCOHOLICS
AL-ANON Family groups offer help for friends and relatives of alcoholics.
They provide assistance for people who live with alcoholics.
Dawnnam@gmail.com
VENUE: cnr Lüderitz and Kasino Street
DATE AND TIME: Thursdays at 19H00

Multiple Sclerosis NAMIBIA
WHAT IS MULTIPLE SCLEROSIS?
A chronic disease of the brain and central nervous system
OFFICE HOURS:
Monday - Friday:
09h00 - 17h00
info@msnamibia.org

TENDER

MTC hereby invites companies to tender for the following tender:

TENDER NO: MTC01-21-0

REQUEST FOR PROPOSAL TO SUPPLY A RANGE OF SPECIALISED, PRE-FABRICATED, MODULAR, ACCESS CHAMBERS SYSTEM (MANHOLES) FOR MOBILE TELECOMMUNICATIONS LIMITED (MTC)

BRIEFING MEETING:
DATE: 5th February 2021
TIME: 10:00am
VENUE: Microsoft Teams, the link will be on MTC's website

CLOSING DATE:
Friday, 12th February 2021 at 14:30

Tender documents are available at:
www.mtc.com.na

mtc.com.na — mtc

ECC

NOTICE OF AN ENVIRONMENTAL ASSESSMENT & PUBLIC PARTICIPATION PROCESS FOR THE ZINC SULPHIDE AND SULPHURIC ACID TRANSPORTATION AND STORAGE FACILITY, IN THE ISKARAS REGION, NAMIBIA

Environmental Compliance Consultancy CC (ECC) hereby gives notice to the public that an application for an environmental clearance certificate in terms of the Environmental Management Act, No. 7 of 2007 will be made as per the following:

Applicant: Skorpion Zinc (Namzinc) (Pty) Ltd
Environmental Assessment Practitioner (EAP): Environmental Compliance Consultancy
Location: IKaras Region, Namibia

Proposed Project Activity: The proponent, Skorpion Zinc (Namzinc) (Pty) Ltd, propose to transport 314 000 tonnes of Zinc Sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, in South Africa for processing at their Namzinc refinery located in Rosh Pinah, Namibia.

The processing of this material will produce 75 000 tonnes of industrial sulphuric acid, that would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export. Within the existing warehouse at the port, a storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

ESIA Project Details: Three Environmental and Social Impact Assessments (ESIA) will be undertaken for this project due to the different materials being stored and transported, and due to the geographical extent of the three project areas. The three ESIAs that will be conducted are:

1. Transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc refinery, in the IKaras Region, Namibia;
2. Transportation of industrial sulphuric acid from the Namzinc refinery, within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz, in the IKaras Region, Namibia; and
3. The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the IKaras Region, Namibia.

I&APs Registration: The purpose of the review and registration period is to introduce the proposed project and to afford Interested and Affected Parties (I&APs) an opportunity to register and comment on the Non-Technical Summary (NTS), to ensure that potential issues and concerns are brought forward, so that they can be considered and assessed during the impact assessment process.

The registration period is effective from **10 to 24 February 2021.**
I&APs and stakeholders are required to register for the project at: https://eccenvironmental.com/projects/

The team at ECC will then maintain contact with all registered I&APs to engage and to keep them informed as the ESIA process develops. ECC will also provide registered I&APs input opportunities and review periods throughout the assessment process.

Environmental Compliance Consultancy
Registration Number: CC/2013/11404
Members: Mr JS Bezuidenhout or Mrs I Mooney
PO Box 91231, Klein Windhoek
Tel: +264 81 869 7608
E-mail: info@eccenvironmental.com
Website: http://www.eccenvironmental.com
Project ID: ECC-99-313-ADT-20-D

skorpion zinc

TE KOOP
SKOON ROLLE WIT KOERANTPAPIER VIR VELE GEBRUIKE
•PANEELKLOPPERS •NYWERHEDE •RESTAURANTE
•SKOLE •VERPAKKINGSMATERIAAL
per kg
Prys op aanvraag
SKAKEL AGNES: 330 500 OF CHANTEL: 330 502
2 - 4 EIDERSTRAAT, LAFRENZ INDUSTRIEEL

The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 17th February2021.

8 Republikein Sun Allgemeine Zeitung Market Watch WEDNESDAY 17 FEbr u Ar Y 2021

LOSING CONTROL?

AA

ALCOHOLICS ANONYMOUS NAMIBIA

If you want to drink, that's your business.

If you want to stop, that's ours.

Windhoek: 081 325 6144
Swakopmund: 081 243 2649

E-MAIL: alcoholicsanonymousna@gmail.com

how can we help you?

find your dream career.

In line with its Segment-led strategy, **FNB NAMIBIA**, an equal opportunity employer, is looking for an ethical, dynamic, innovative, energetic, mature and experienced team player that performs to the highest standards of business acumen for the following role:

Commercial Account Executive
Based in Walvis Bay
FNB Namibia Commercial Sales High Touch

Purpose:
Responsible for management of their function devising implementation and providing input into the customer relationship management strategy. To strategically and operationally manage and a portfolio of clients with a focus on growth, retention and service

Qualifications:
- Recognised professional qualifications: Postgraduate degree in Commerce, CA / MBA qualification will be advantageous
- 5 to 6 years related experience
- 7 years' experience of relationship management / business experience in banking environment, including Sales experience (in dealing with corporate clients and executive management) and experience in the credit/lending environment

If this proves to be the challenge you are looking for please visit our website, www.fnbnamibia.com.na (click on the careers tab), for more information and to submit your application.

Please note: Only short-listed candidates will be contacted. Ensure documents are in PDF format when uploading. Applicants will be subjected to ITC and reference checks.

Closing date: 25 February 2021

WIDSHIRVEN & CO

FNB Call us on 061 299 2222 or Visit www.fnbnamibia.com.na

Deloitte

ECC

NOTICE OF AN ENVIRONMENTAL ASSESSMENT & PUBLIC PARTICIPATION PROCESS FOR THE ZINC SULPHIDE AND SULPHURIC ACID TRANSPORTATION AND STORAGE FACILITY, IN THE !KARAS REGION, NAMIBIA

Environmental Compliance Consultancy CC (ECC) hereby gives notice to the public that an application for an environmental clearance certificate in terms of the Environmental Management Act, No. 7 of 2007 will be made as per the following:

Applicant: Skorpion Zinc (Namzinc) (Pty) Ltd
Environmental Assessment Practitioner (EAP): Environmental Compliance Consultancy
Location: !Karas Region, Namibia

Proposed Project Activity: The proponent, Skorpion Zinc (Namzinc) (Pty) Ltd, propose to transport 314 000 tonnes of Zinc Sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, in South Africa for processing at their Namzinc refinery located in Rosh Pinah, Namibia.

The processing of this material will produce 75 000 tonnes of industrial sulphuric acid, that would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export. Within the existing warehouse at the port, a storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

ESIA Project Details: Three Environmental and Social Impact Assessments (ESIA) will be undertaken for this project due to the different materials being stored and transported, and due to the geographical extent of the three project areas. The three ESIAs that will be conducted are:

1. Transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc refinery, in the !Karas Region, Namibia;
2. Transportation of industrial sulphuric acid from the Namzinc refinery, within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia; and
3. The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia.

I&APs Registration: The purpose of the review and registration period is to introduce the proposed project and to afford Interested and Affected Parties (I&APs) an opportunity to register and comment on the Non-Technical Summary (NTS), to ensure that potential issues and concerns are brought forward, so that they can be considered and assessed during the impact assessment process.

The registration period is effective from **10 to 24 February 2021.**
I&APs and stakeholders are required to register for the project at: https://eccenvironmental.com/projects/

The team at ECC will then maintain contact with all registered I&APs to engage and to keep them informed as the ESIA process develops. ECC will also provide registered I&APs input opportunities and review periods throughout the assessment process.

Environmental Compliance Consultancy
Registration Number: CC/2013/11404
Members: Mr JS Bezuidenhout or Mrs J Mooney
PO Box 91193, Klein Windhoek
Tel: +264 81 669 7608
E-mail: info@eccenvironmental.com
Website: http://www.eccenvironmental.com
Project ID: ECC-99-313-ADT-10-D

skorpion zinc

VACANCY:
PASTOR – EMMANUEL CHURCH WINDHOEK

We are creating a position for a full time Pastor in our church for the following functions:

- Actively participate in the establishment and development of new and existing churches in the Emmanuel Kingdom Missions Network.
- Develop and ensure goodfinnci a l and governance policies and procedures in all the churches.
- Work with church leaders on income-generating projects as well as to ensure accurate and timely finnci a reporting and accountably.
- Oversee and lead internal ministries as agreed upon.
- Function as a member of the pastoral staff performing baptism services, weddings, funerals, hospital visits, etc.
- Participate in and serve at Sunday meetings as well as prayer and other special and/or important meetings during the week
- Preach/teach on different occasions as opportunity is given
- Participate in connecting wits firt time visitors, those who want to become members, join e-groups, become involved etc.
- Provide pastoral care for those in need of prayer, visitation or general follow-up.

Requirements:

- Be a born again Christian who is baptised as a believer andlfilled with the Holy Spirit.
- Be a member or prepared to become a member of the Emmanuel Church Windhoek. (references from former and current spiritual leaders will be required).
- Active participation in the program and life of the Church.
- Must have strong leadership and managerial abilities and experience and be able to relate multi-culturally and cross-generationally.
- Must be above reproach in the areas of honesty, personal integrity, and work ethic.
- Should be able to preach, teach and train others.
- Must have good organizational and administrative skills with an eye for detail.
- Should be willing to travel to other churches in Namibia.
- Relevant and recent experiende in the areas specifie above and evident fruit of ministry.
- Grade 12.
- Degree in Theology and/or Accounting and willingness to study.
- We are looking for someone that understands and personally holds to the doctrine held by Emmanuel Church Windhoek and the AFM of Namibia as a whole.

Only candidates who meet the above specifie requirements needs to apply in writing to the following address: ***lizemari@emmanuelwhk.com***

Closing date of applications is Thursday 25 February 2021.

ARTISAN: ELECTRICIAN

Vacancy

An excellent career opportunity exists for interested and qualified candidates to apply for the above-mentioned position at Feedmaster (Pty) Ltd, Okapuka.

PRIMARY PURPOSE OF THE POSITION
This position is responsible for the maintenance and r epair of all Electrical equipment on the Feedmaster Okapuka pr emises

KEY FUNCTIONS AND RESPONSIBILITIES
- Electrical and electronic maintenance of all relevant equipment.
- Fault finding and rectification on all relevant equipment.
- Provision of standby service on 24 hours, seven days a week basis.
- Compilation, acquisition, maintenance and updating of all electronic and electrical documentation.
- Organisation and control of spare parts procurement and stores.
- Organisation and maintenance of hardware and software documentation archives.
- Definition and updating of maintenance and documentation systems and standards, as well as equipment standards.
- Adhere to Health, Safety and Environmental Policies as laid down by law and the company.
- Always wear proper and clean PPE as prescribed by the company.
- Work area/workbench must be cleaned when job is completed.
- Timeously attending to call-outs.
- On time reporting/feedback on call-out if any occurred.
- Performing of additional tasks as and when required and performing it to best of ability and according to company standards and procedures.

MINIMUM REQUIREMENTS/QUALIFICATIONS & EXPERIENCE FOR THIS POSI TION
- S3/T4 (NTD – National Technical Diploma)

OR
- Recognized equivalent tertiary qualification in the field of electronic/electrical or instrumentation engineering

Other:
- Knowledge of PLC and SCADA systems is a prerequisite Hands-on experience in such systems will be an added advantage.
- Working knowledge of Windows based office systems such as Excel, Word, and Outlook.
- Namibian citizen OR eligible to become a Namibian citizen
- Willing to work overtime and weekends
- Valid Driver's license
- Willing to fulfil standby duties

Feedmaster (Pty) Ltd is an equal opportunity employer.
CV'S WITH FULL DETAILS SHOULD BE FORWARDED TO:
E-mail: hr2@namibmills.com.na (not larger than 2MB)

SUBJECT LINE FOR APPLICATIONS SHOULD BE:
FMP005– ARTISAN: ELECTRICIAN (OKAPUKA)

ONLY APPLICATIONS WITH THIS SUBJECT LINE WILL BE CONSIDERED.

ONLY SHORTLISTED CANDIDATES WILL BE CONTACTED FOR INTERVIEWS

CLOSING DATE FOR APPLICATIONS: FRIDAY, 19 FEBRUARY 2021

C/o Dortmund street and Iscor street P.O. Box 20276 Windhoek Namibia
Tel: +264 61 290 1300
www.feedmaster.com.na – info@feedmaster.com.na

Feedmaster Your Quality Solution

APPENDIX C.1 SITE NOTICES AND STAKEHOLDERS LETTER

Boundaries of the Port of Lüderitz

Near by the Engine service station in Rosh Pinah

Near by the boarder post in Oranjemund

COPY

MINISTRY OF WORKS AND TRANSPORT
2021-02-17
RECEIVED Maurice
OFFICE OF THE EXECUTIVE DIRECTOR

ECC ENVIRONMENTAL COMPLIANCE CONSULTANCY

+264 81 669 7608
info@eccenvironmental.com
www.eccenvironmental.com

Stamped Received By:

Ministry of Mines and Energy: MINISTRY OF MINES AND ENERGY OFFICE OF THE EXECUTIVE DIRECTOR 2021-02-17 Lydia RECEIVED	Ministry of Environment, Forestry and Tourism: MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM DIRECTORATE OF ENVIRONMENTAL AFFAIRS 17 FEB 2021 Tel: 061 284 2701 RECEIVED 2 Signature
Ministry of Fisheries and Marine Resources: MINISTRY OF FISHERIES & MARINE RESOURCES OFFICE OF THE EXECUTIVE DIRECTOR 17 FEB 2021 RECEIVED By:	Ministry of Works and Transport:
Ministry of Agriculture, Water and Land Reform: Natalia RECEIVED 061208 7649 2021-02-17 EXECUTIVE DIRECTOR'S OFFICE MAWLR	Ministry of Safety and Security: MINISTRY OF HOME AFFAIRS, IMMIGRATION, SAFETY & SECURITY RECEIVED 18 FEB 2021 OFFICE OF THE EXECUTIVE DIRECTOR

REFERENCE: ECC-99-313-LET-12-A
10 February 2021

Identified Stakeholder and or Potentially Interested Party:

Dear Sir or Madam:

RE: NOTIFICATION OF ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED ZINC SULPHIDE AND SULPHURIC ACID TRANSPORTATION AND STORAGE FACILITY, IN THE !KARAS REGION.

Environmental Compliance Consultancy (ECC) has been engaged by **Skorpion Zinc (Namzinc) (Pty) Ltd**, the proponent, to act on their behalf for the environmental clearance certificates applications.

ECC is conducting the Environmental and Social Impact Assessment (ESIA) in terms of the Environmental Management Act, No. 7 of 2007 and will be submitted to the competent authority and the Ministry of Environment, Forestry and Tourism for a record of decision.

ENVIRONMENTAL COMPLIANCE CONSULTANCY CC
PO BOX 91193 WINDHOEK, NAMIBIA
MEMBERS: J L MOONEY & JS BEZUIDENHOUT
REGISTRATION NUMBER: CC/2013/11404

The proponent, Skorpion Zinc (Namzinc) (Pty) Ltd, propose to transport 314 000 tonnes of Zinc Sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, in South Africa for processing at their Namzinc refinery located in Rosh Pinah, Namibia.

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ESIA Project Details: Three Environmental and Social Impact Assessments (ESIA) will be undertaken for this project due to the different materials being stored and transported, and due to the geographical extent of the three project areas. The proposed routes and location of the projects are provided on the maps hereto attached. The three ESIAs that will be conducted are:

1. Transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc refinery, in the !Karas Region, Namibia;
2. Transportation of industrial sulphuric acid from the Namzinc refinery, within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia; and
3. The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia.

This letter is intended to engage stakeholders and potentially Interested and Affected Parties (I&APs) of the project and provide a communication channel to ECC for the project. You have been identified as either a stakeholder, interested or affected party; therefore ECC wishes to inform you of how you can become involved in the project.

Public participation is an important part of the EIA process, as it allows public and stakeholders to obtain information about the proposed project. Public participation occurs at various stages throughout a project lifecycle including:

- Advertising in newspapers;
- Distributing a Non-Technical Summary (NTS) to identified stakeholders and I&APs;
- Registered I&APs will also be informed of the available draft scoping report for a 7-day comment and review period, during this period I&APs will have the opportunity to review the draft document and raise any issues or concerns, and
- Stakeholders and I&APs who wish to register as an I&AP must do so on the ECC website as per the link provided below: https://eccenvironmental.com/projects/

If you are unable to complete the registration form online please email info@eccenvironmental.com and request an electronic copy of the form that you can complete, sign, scan and return via email to info@eccenvironmental.com to register as an I&AP for the project.

ENVIRONMENTAL COMPLIANCE CONSULTANCY CC
PO BOX 91193 WINDHOEK, NAMIBIA
MEMBERS: J L MOONEY & JS BEZUIDENHOUT
REGISTRATION NUMBER: CC/2013/11404

ECC values community input and participation in our projects and we look forward to working with you as the project develops.

The NTS can also be obtained from our website and provides a brief overview of the proposed projects https://eccenvironmental.com/projects/

Should you have any questions or require additional information please do not hesitate to contact either of us.

Yours sincerely,

Stephan Bezuidenhout
Environmental Compliance Consultancy
Office: +264 81 669 7608
Email: stephan@eccenvironmental.com

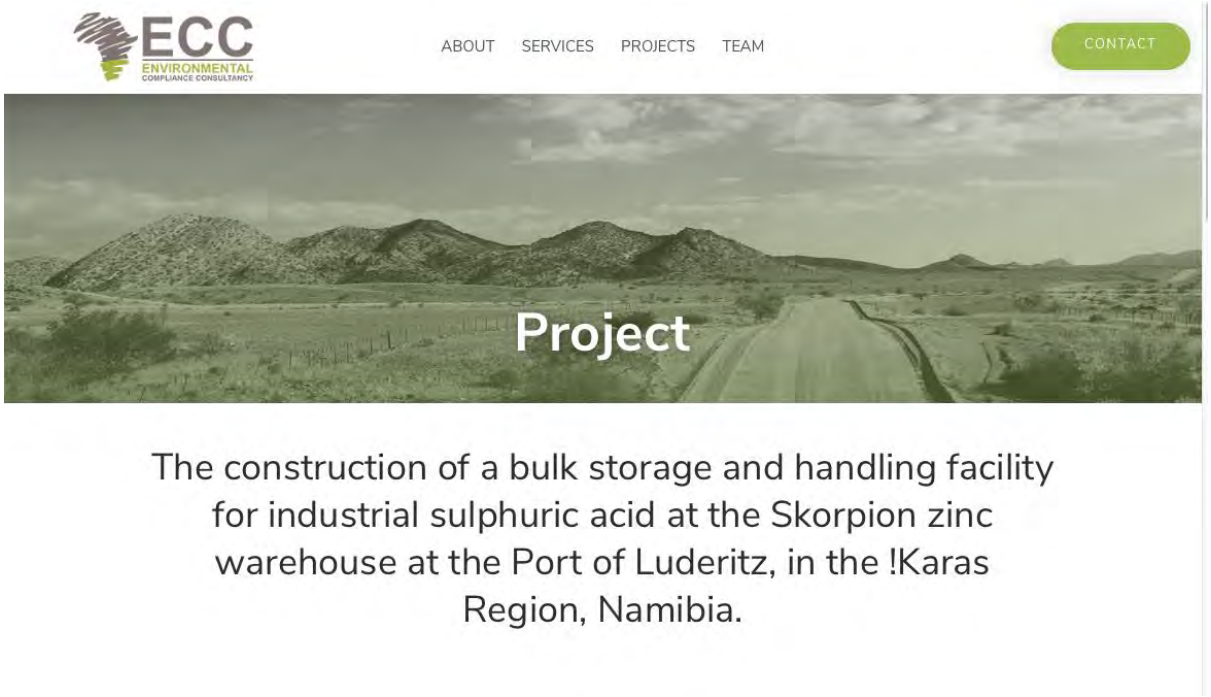
Jessica Bezuidenhout Mooney
Environmental Compliance Consultancy
Office: +264 81 669 7608
Email: jessica@eccenvironmental.com

ENVIRONMENTAL COMPLIANCE CONSULTANCY
CC/2013/11404
10 FEB 2021
ENVIRONMENTAL COMPLIANCE CONSULTANCY
www.eccenvironmental.com

ENVIRONMENTAL COMPLIANCE CONSULTANCY CC
PO BOX 91193 WINDHOEK, NAMIBIA
MEMBERS: J L MOONEY & JS BEZUIDENHOUT
REGISTRATION NUMBER: CC/2013/11404

Environmental Compliance Consultancy website:

www.eccenvironmental.com



APPENDIX D - CONCEPT NOTE, DESIGNS AND MODELLING

APPENDIX E - TRANSPORT ROUTE ASSESSMENT

APPENDIX F - NOISE ASSESSMENT

APPENDIX G - ECC'S CVS