

Updated Environmental Management Plan (EMP) Report to Support the Application for Renewal of Environmental Clearance Certificate (ECC) for the Proposed Upgrading (Construction of a New Tower and High Site Node) of the Kerbehuk Line of Site Communication Station, **North of Oranjemund, //Karas Region, Southern Namibia**



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Updated Environmental Management Plan (EMP) Report Prepared By



Risk-Based Solutions (RBS) CC

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CITATION: *Risk-Based Solutions (RBS), 2023. Environmental Management Plan (EMP) to Support the Application for Renewal of the Environmental Clearance Certificate (ECC) for the Proposed Upgrading (Construction of a New Tower and High Site Node) to the Kerbehuk Line of Sight Communication Station, North of Oranjemund, //Karas Region, Southern Namibia by De Beers Marine Namibia (DBMN) (Pty) Ltd*

PROJECT INFORMATION SUMMARY

PROPONENT

De Beers Marine Namibia (DBMN) (Pty) Ltd

MEFT ECC RENEWAL APPLICATION No.

APP-001570

PROPOSED PROJECT

Proposed Upgrading (Construction of a New Tower and High Site Node) to the Kerbehuk Line of Sight Communication Station, Mining License (ML) No. 43, North of Oranjemund, Tsau //Khaeb (Sperrgebiet) National Park //Karas Region, Southern Namibia

ADDRESS OF THE PROPONENT

De Beers Marine Namibia (Pty) Ltd
Namdeb Centre, 10 Dr. Frans Indongo Street
P.O. Box 23016
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PROJECT LOCATION

Mining License (ML) No. 43, North of Oranjemund, Tsau //Khaeb (Sperrgebiet) National Park //Karas Region, Southern Namibia
X: -28.218300, Y: 16.027783

PROJECT COMPETENT AUTHORITY

Ministry of Information, Communication and Technology (MICT)

ENVIRONMENTAL / PERMITTING DE-RISKING CONSULTANTS



Risk-Based Solutions (RBS) CC

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ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Dr Sindila Mwiya (*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*)

DR SINDILA MWIYA, TEAM LEADER / ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) DECLARATION

I, Dr Sindila Mwiya, the Environmental Assessment process Team Leader and EAP for the preparation of this Environmental Management Plan (EMP) to support the application for the renewal of the Environmental Clearance Certificate (ECC) for the Proposed upgrading (construction of a new tower and high site node) to the Kerbehuk Line of Sight Communication Station, north of Oranjemund, //Karas Region, Southern Namibia by De Beers Marine Namibia (DBMN) (Pty) Ltd (the Proponent), hereby declares that:

1. This updated EMP Report has been prepared in accordance with the provisions of all the applicable national laws, and Regulations and in particular the Minerals (Prospecting and Mining) Act (No. 33 of 1992), the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) and Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and Good International Industry Practice (GIIP).
2. As a Team Leader and EAP for this project, I am highly qualified and experienced in minerals exploration, mining operations, operational logistics and environmental assessment and management and hold a PhD with research interests, academic training, and technical knowledge in Engineering Geology, Geotechnical, Geoenvironmental and Environmental Engineering, Artificial Intelligence and Knowledge-Based Systems with special focus on EIAs, EMPs, EMSs, SEAs, SEMPAs and ESG with respect to subsurface resources (minerals, petroleum, water) and energy in arid and semiarid environments.
3. I am an **Engineering and Environmental Geologist** with extensive technical knowledge and experience in conducting environmental assessments, management, and monitoring for subsurface resources (petroleum, solid state minerals, water, geothermal), and have undertaken more than 250 projects since 2004, including minerals exploration and mining related environmental assessments, management, and monitoring projects in different parts of Namibia.
4. I have performed the work relating to this project in an objective manner, even if the outcomes will result in views or Records of Decision that may not be favourable to the stakeholders or the Proponent, and.
5. I am an independent consultant not related to the Proponent, I co-own and operates an independent company (Risk-Based Solutions CC) which is not related to the Proponent. Except for the fees payable for professional consulting services rendered to the Proponent, I have no shares, interests, or involvement in the license, financial or other affairs or business or operational decisions of either the Proponent or the decision-making structures of Government.



.....
Dr Sindila MWIYA
Environmental Assessment Practitioners (EAPs)\Team Leader
RISK-BASED SOLUTIONS (RBS) CC

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NON-TECHNICAL SUMMARY

Debmarnie Namibia (“**DBMN**”), the (“the **Proponent**”) is proposing to upgrading the Kerbehuk line of sight communication station involving the construction of a new tower and high site node situated about 60 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (**ML**) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region, Southern Namibia.

The environmental assessment process has been undertaken in accordance with the provisions of the Environmental Impact Assessment (EIA) Regulations 30 of 2012 and the Environmental Management Act (EMA), 2007, (Act No. 7 of 2007) and DBMN Corporate requirements. The overall impact assessment approach for this project as described in the Updated EMP Report, adopted the DBMN matrix assessment methodology used for predicting the impact of a project on the receiving environment (physical, biological, socioeconomic and ecosystem). The assessment processed derived the impact assessment results of the magnitude, duration, extent and probability (significant) of the potential impacts due to the proposed project activities interacting with the receiving environment as presented in the Updated EMP Report.

The proposed upgrading (construction of a new tower and high site node) of the Kerbehuk line of sight communication station falls within the activities that are listed in the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC). The Proponent is required to have a valid ECC for the proposed construction activities. Following the submission of the EIA and EMP Report to the EC in MEFT in 2019, an ECC was granted to the Proponent on the 13th December 2019 and expired on the 13th December 2022 with respect to the previous upgrading construction activities at the Kerbehuk line of sight communication station.

This expired ECC need to be renewed to support the current proposed upgrading of the Kerbehuk line of sight communication station infrastructure by DBMN covering the construction of a new tower and containerised high site node room. In fulfilment of the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP). This Update Environmental Management Plan (EMP) Report has been prepared based on the findings and recommendations of the Updated EMP Report to support the application for the renewal of the ECC granted on the 13th December 2019 and expired on the 13th December 2022. The Updated EMP Report is based on the initial report that was prepared in 2019. The Ministry of Information, Communication and Technology (MICT) is the Competent Authority with respect to the proposed development at the Kerbehuk line of sight communication station.

Based on the results of the project screening process, Environmental Scoping evaluation of the key issues and the impact assessment described in the Updated EMP Report, it is likely that the proposed project activities will have very limited localised significant impacts / influences on the receiving environment (physical, biological, socioeconomic and ecosystem). It is hereby recommended that the proponent (DBMN) be issued with an Environmental Clearance Certificate (ECC) for the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node situated about 60 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region, Southern Namibia.

It is important to note that although the Kerbehuk line of sight communication station is situated within the Tsau //Khaeb (Sperrgebiet) National Park, the actual site around the existing, station that will be used for the installation of the proposed backup power supply infrastructures is already disturbed and not pristine. If new additional land will be required for the proposed Kerbehuk line of sight communication station upgrades the following actions shall be considered:

- (i) Before construction begins DBMN shall create a nursery where all important flora species – removed could be temporary kept for future rehabilitation purposes. Attempt to remove other species – especially dominant species such as *Othonna* spp. and *Salsola nollothensis*, etc. – for future rehabilitation purposes shall be done by qualified professionals. Certain species may be removed and relocated better than others – e.g., bulbs, tufted mesembs. *Sarcocaulon*,

Othonna cylindrical. The Proponent shall also liaise with Namdeb and MEFT conservation staff to assist with the removal and nursery establishment as they have much experience with relocations and rehabilitation activities.

- (ii) The proponent (DBMN) shall work closely with the Ministry of Environment, Forestry and Tourism (MEFT) to capture and relocate as many of the important reptiles—e.g., Bitis schneideri, Bitis peringueyi, Chersina angulata, Meroles micropholidotus and Psammobates tentorius trimeni (should these occur) – and small mammals—e.g., dune hairy-footed gerbils from the well vegetated dune hummock areas and relocate to similar habitat within the Tsau //Khaeb (Sperrgebiet) National Park. Another serious concern is the impact of illegal plant-collecting. These activities target the rarest and hence most vulnerable species which are usually found in the biodiversity hotspots within the area. Entire populations of Lithops, and probably other sought-after species such as Canophytum and Crassula, have already been removed by unscrupulous collectors where they are accessible, and.
- (iii) Awareness needs to be raised among DBMN staff and contractors likely to be working around the site to avoid plant collection or poaching of wildlife.

In accordance with the results of the impact and risk assessments for the proposed upgrading of the Kerbehuk line of sight communication station as detailed in Updated EIA Report, this Updated EMP has been prepared covering the following key mitigation measures components as presented in Table 3.1 – 3.5 of this report:

- (i) General company procedures for EMP implementation in line with DBMN operations and EMS (Table 3.1);
- (ii) Implementation of the Environmental, Health and Safety (HSE) management systems, procedures and operational requirements covering the proposed project lifecycle (Table 3.2);
- (iii) Protection of the physical, biological and ecosystem components of the environment due to increased / cumulative activities around the Kerbehuk line of sight communication station site, the Mining License (ML) No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park (Table 3.3);
- (iv) Enhancement of the socioeconomic components (Table 3.4), and;
- (v) Alignment of mine closure and sustainability / alternative use of the Kerbehuk line of sight communication station infrastructure developed by tourism / leisure / conservations related activation beyond the diamond exploration and recovery operations by DBMN (Table 3.5).

Mitigation measures have been prepared to be implemented by DBMN with respect to the impacts ranked as having either a “high” or “medium” significant impact on the receiving environment. The Environmental Performance Monitoring activities shall be undertaken during the preconstruction, construction and operational stages of the proposed upgrading of the Kerbehuk line of sight communication station with bi-annual / annual or as may be stipulated on the ECC, all monitoring reports shall be submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MET) through the Competent Authority (the Mining Commissioner in the Ministry of Mines and Energy (MME)).

1. BACKGROUND

1.1 Overview

De Beers Marine Namibia (“**DBMN**”) (Pty) Ltd, “**the Proponent**” is proposing to upgrade the Kerbehuk line of sight communication station situated north of Oranjemund in the //Karas Region, southern Namibia (Fig. 1.1). The proposed upgrading will involve the construction of a new support tower and a containerised high site node room. The proposed upgrading of the Kerbehuk line of sight communication station is scheduled to start in September 2023 subject to the granting of a new Environmental Clearance Certificate (ECC) by the Environmental Commissioner (EC) in the Ministry of Environment, Forestry and Tourism (MEFT).

The current ECC that was granted on the 13th December 2019 had expired on the 13th December 2022 and need to be renewed to support the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node (Fig. 1.2). The Kerbehuk line of sight communication station is a very important supporting infrastructure used by both Namdeb Holdings (Pty) Ltd and DBMN for all their onshore operational sites and offshore (exploration and mining vessels) remote communication needs, respectively. DBMN holds exclusive mining and exploration contract for marine diamond over the Atlantic 1 Mining Licence Area (MLA), also known as the Atlantic 1 Mining License Area (MLA) No. 47 (Fig. 1.3). Namdeb and DBMN are wholly owned subsidiaries of Namdeb Holdings (Pty) Ltd. Namdeb Holdings holds all the land-based and marine exclusive prospecting and mining licences and Namdeb and DBMN perform land-based and marine prospecting and diamond recovery operations respectively for Namdeb Holdings (Pty) Ltd (Fig. 1.3).

1.2 Need and Desirability Assessment

The Kerbehuk line of sight communication station is a critical communication support infrastructure linking the onshore and offshore diamond exploration and recovery operational nodes of both Namdeb and DBMN. The station is central to the safety, emergency response and efficient logistical operations of both Namdeb onshore and DBMN offshore diamonds exploration and recovery operations. It provides a direct communication links to all the DBMN vessels operating offshore as well as to all the remote onshore Namdeb operational teams / sites.

1.3 Regulatory Requirements

The proposed activities of upgrading of the Kerbehuk line of sight communication station infrastructure covering the construction of a new tower and containerised high site node room are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations 30 of 2012. The listed activities cannot be undertaken without valid Environmental Clearance Certificate (ECC). In fulfilment of the environmental requirements, the Proponent had appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report in order to support the application for ECC.

The previous DBMN EIA and EMP Report was completed and submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT) in October 2019. An ECC was granted Environmental Commissioner in the MEFT for the initial upgrading of the Kerbehuk line of sight communication station on the 13th December 2019 following the review of the submitted EIA and EMP Reports. The Ministry of Information, Communication and Technology (MICT) is the Competent Authority with respect to the proposed development at the Kerbehuk line of sight communication station. The current ECC has expired on the 13th December 2022 and need to be renewed in order to support the current proposed upgrading of the Kerbehuk line of sight communication station infrastructure covering the construction of a new tower and containerised high site node room (Fig. 1.4). This Scoping / Background Information Document (BID) has been prepared to support the application for the renewal of the ECC granted on the 13th December 2019 and expired on the 13th December 2022 as shown in Fig. 1.4. Other regulatory requirements that need to be taken into consideration include: the license to construct and operate the Kerbehuk line of sight communication station, the operation of a 1000 litre containerised header diesel tank for standby generator backup power supply (Fig. 1.5), permits to access a national park, security and access to a Mining License area with protected resources.



Figure 1.1: Regional location of the Kerbehuk line of sight communication station.



REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE

ISSUED

In accordance with Section 37(2) of the Environmental Management Act (Act No. 7 of 2007)

TO

De Beers Marine Namibia (DBMN) (Pty) Ltd
P. O. Box 23016 WINDHOEK, NAMIBIA

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

the Proposed Upgrading of the Oranjemund Logistic Aviation Base (Oranjemund Airport), Oranjemund //Karas Region.



Issued on the date: 2019-08-13

Expires on this date: 2022-08-13

(See conditions printed over leaf)



This certificate is printed without erasures or alterations

Figure 1.2: Copy of the ECC granted on the 13th August 2019 and expired on the 13th August 2022 with respect to the proposed construction activities of upgrading the Kerbehuk line of sight communication station.

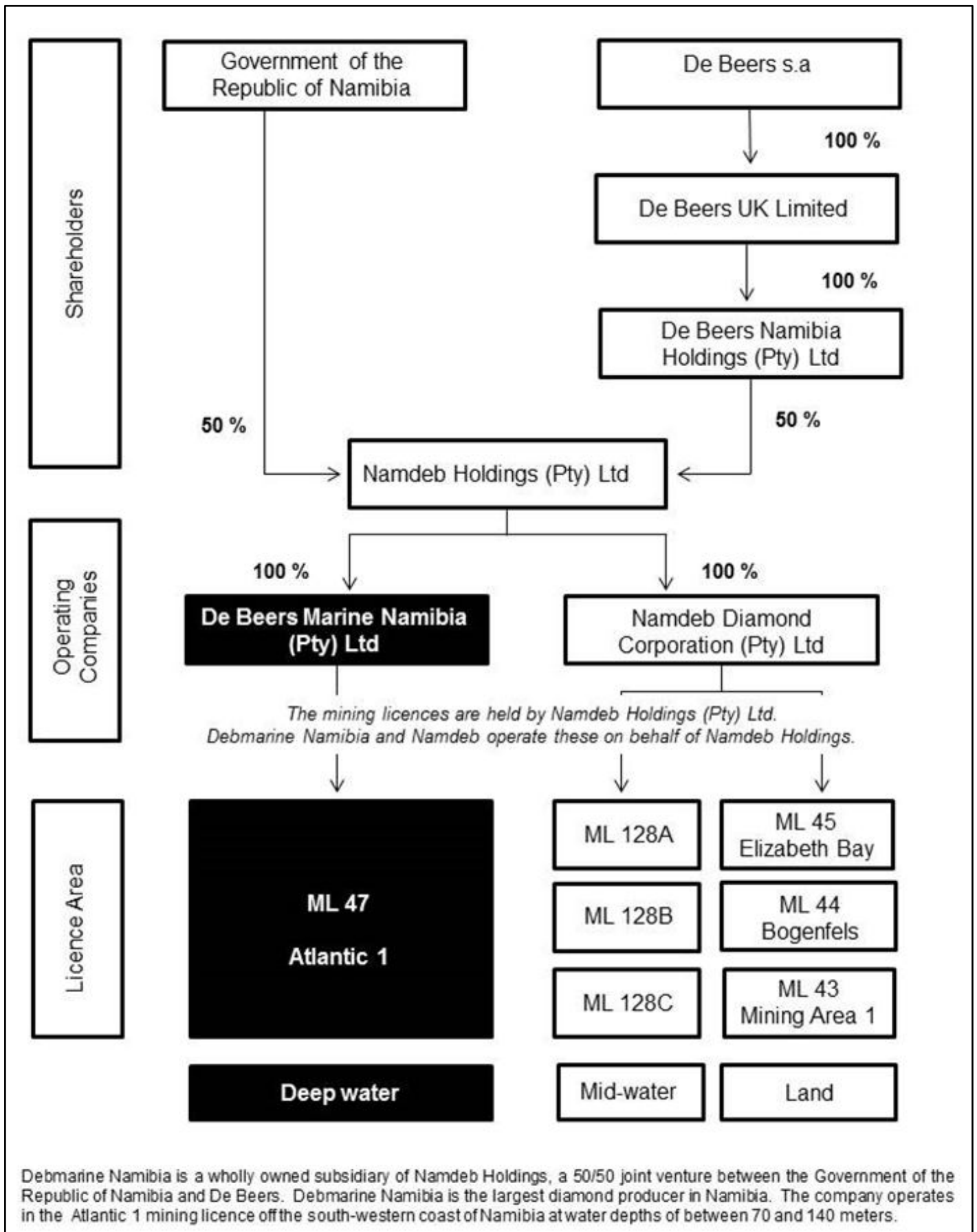


Figure 1.3: Shareholding structure, operational companies and license areas with respect to Namdeb Holdings (Pty) Ltd, DBMN (Pty) Ltd and Namdeb Diamond Corporation (Pty) Ltd (Source: DBMN, 2018).



MINISTRY OF MINES AND ENERGY
PETROLEUM PRODUCTS AND ENERGY ACT, 1990
PETROLEUM PRODUCTS REGULATIONS (2000)

CONSUMER INSTALLATION CERTIFICATE

[Regulation 19 (5)]

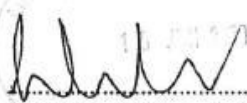
CONSUMER INSTALLATION CERTIFICATE	PERMANENT*	PETROL*	Certificate No.
	X		CI/2774/2020
	TEMPORARY*	DIESEL*	
		X	
Name of certificate-holder		De Beers Marine Namibia (DBMN) (Pty) Ltd	
Address of certificate-holder	Physical Address	Postal Address	
	Namdeb Centre, 10 Dr. Frans Indongo Street Windhoek	PO Box 23016 Windhoek Namibia	
Nature of activity to which certificate relates*	Commercial / Industrial Undertaking	Farming Operation	Mining Operation
	X		
If Storage tank is to be permanently installed, location of site		28° 13' 05.88"S 16° 1' 40.02"E	
Conditions applicable to Certificate <i>See overleaf for general and special conditions applicable to license</i>			
Date of Issue of certificate	08 June 2020		
In the case of temporary license, period of validity	N/A		
Issued by the Minister of Mines and Energy in terms of regulations 18(5), on 08 June 2020 at Windhoek			
 Minister: Mines & Energy			

Figure 1.4: Copy of the Consumer Installation Certificate No. C1/2774/2020 issued by the Ministry of Mines and Energy (MME), the Competent Authority for DBMN to operate a 1000 litre containerised header diesel tank for standby generator backup power supply for the Kerbehuk line of sight communication station.

1.4 Proposed Project Location

The Kerbehuk line of sight communication station is situated about 60 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region, Southern Namibia (Figs. 1.1 and 1.5-1.10 and Plate 1.1). The topography around the station is generally flat (Figs. 1.6 and 1.7 and Plate 1.2).

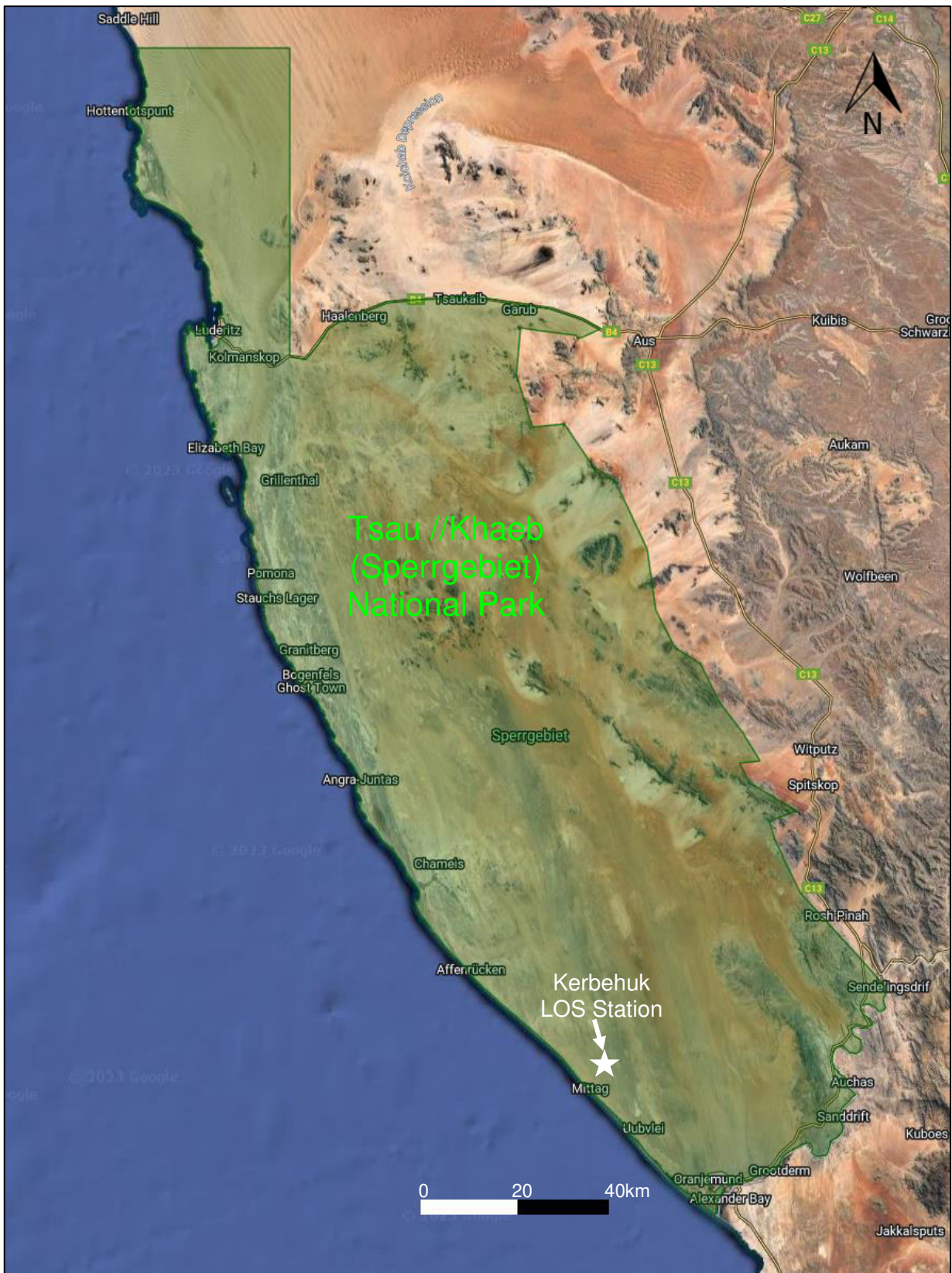


Figure 1.5: Kerbehuk line of sight communication station location in the Tsau //Khaeb National Park (Source: Google map, 2023).



Plate 1.1: The Kerbehuk line of sight communication station (Source: DBMN, 2023).

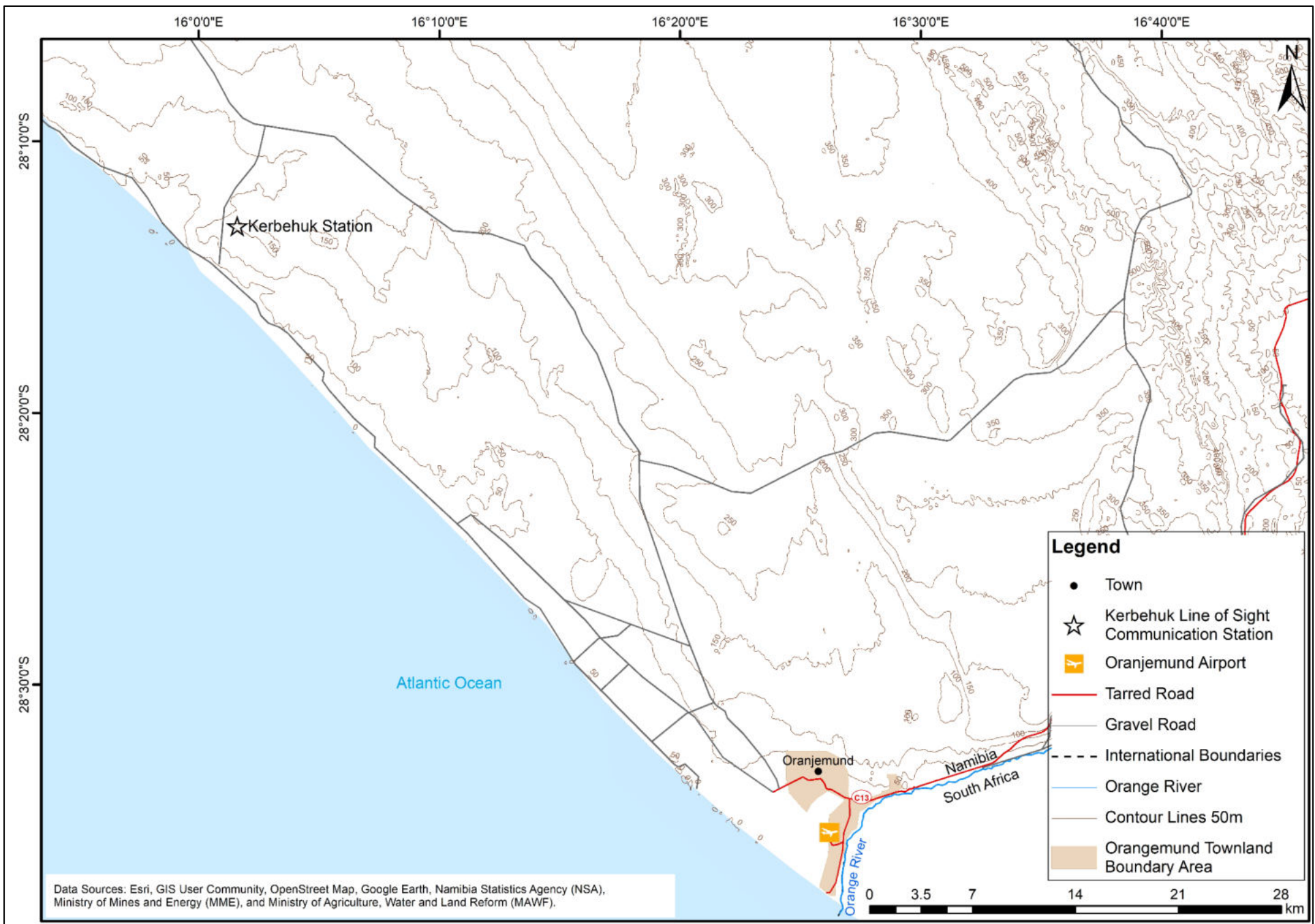


Figure 1.6: Regional topographic settings around the Kerbehuk line of sight communication station.

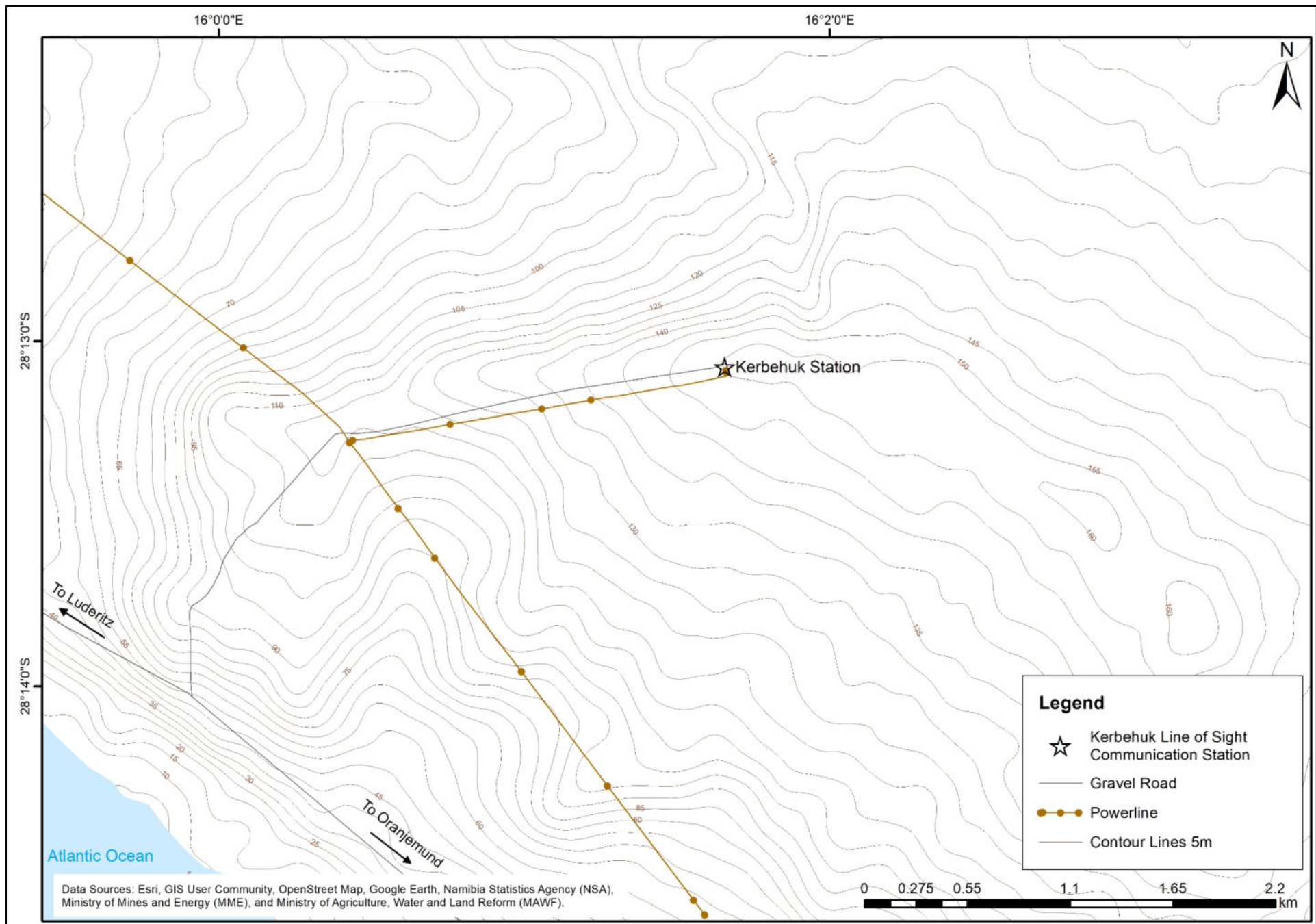


Figure 1.7: Local topographic settings around the Kerbehuk line of sight communication station.



Plate 1.2: Topographic low laying area around the Kerbehuk line of sight communication station (Source: DBMN, 2023).

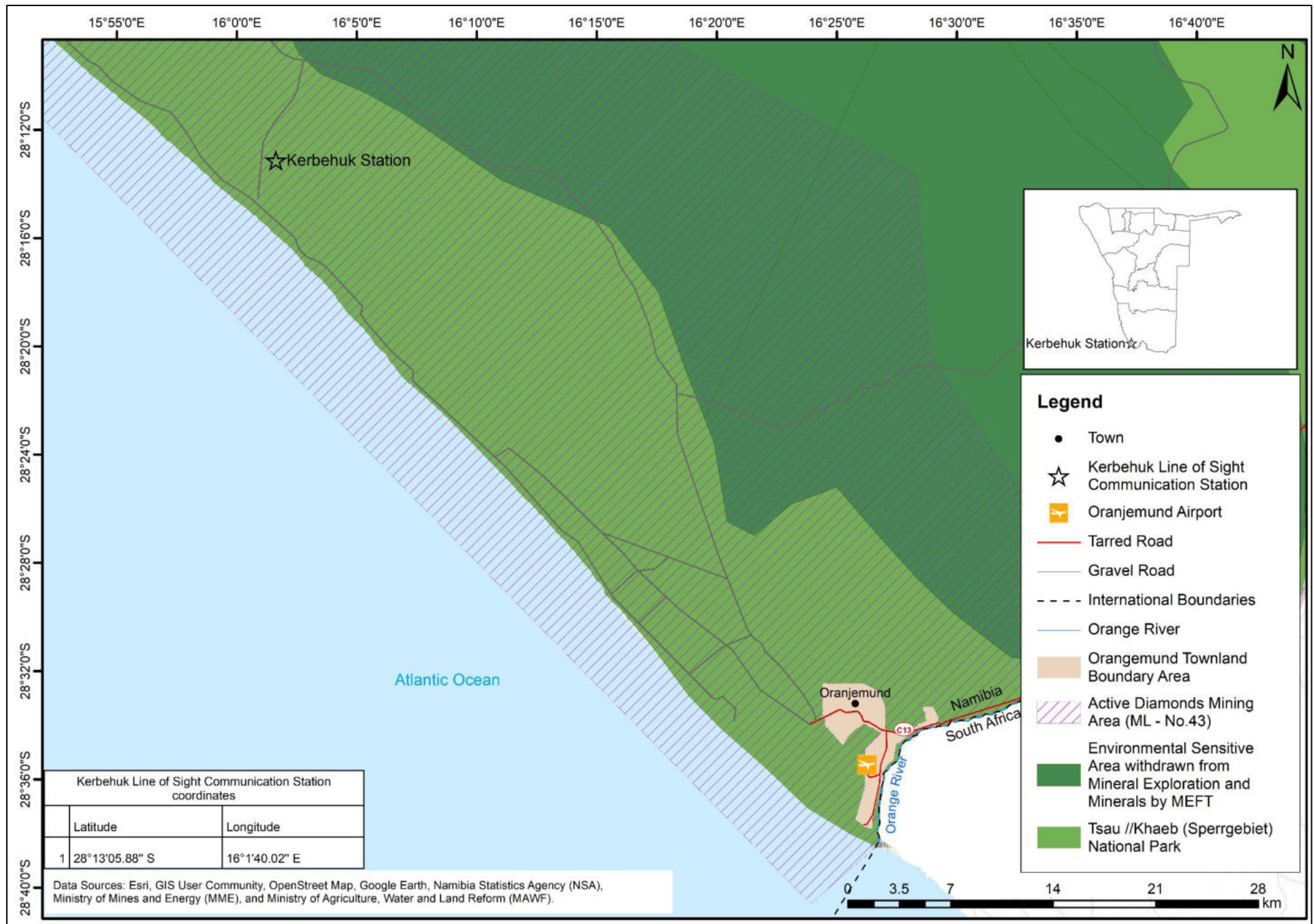


Figure 1.8: Detailed regional location of the Kerbehuk line of sight communication station.

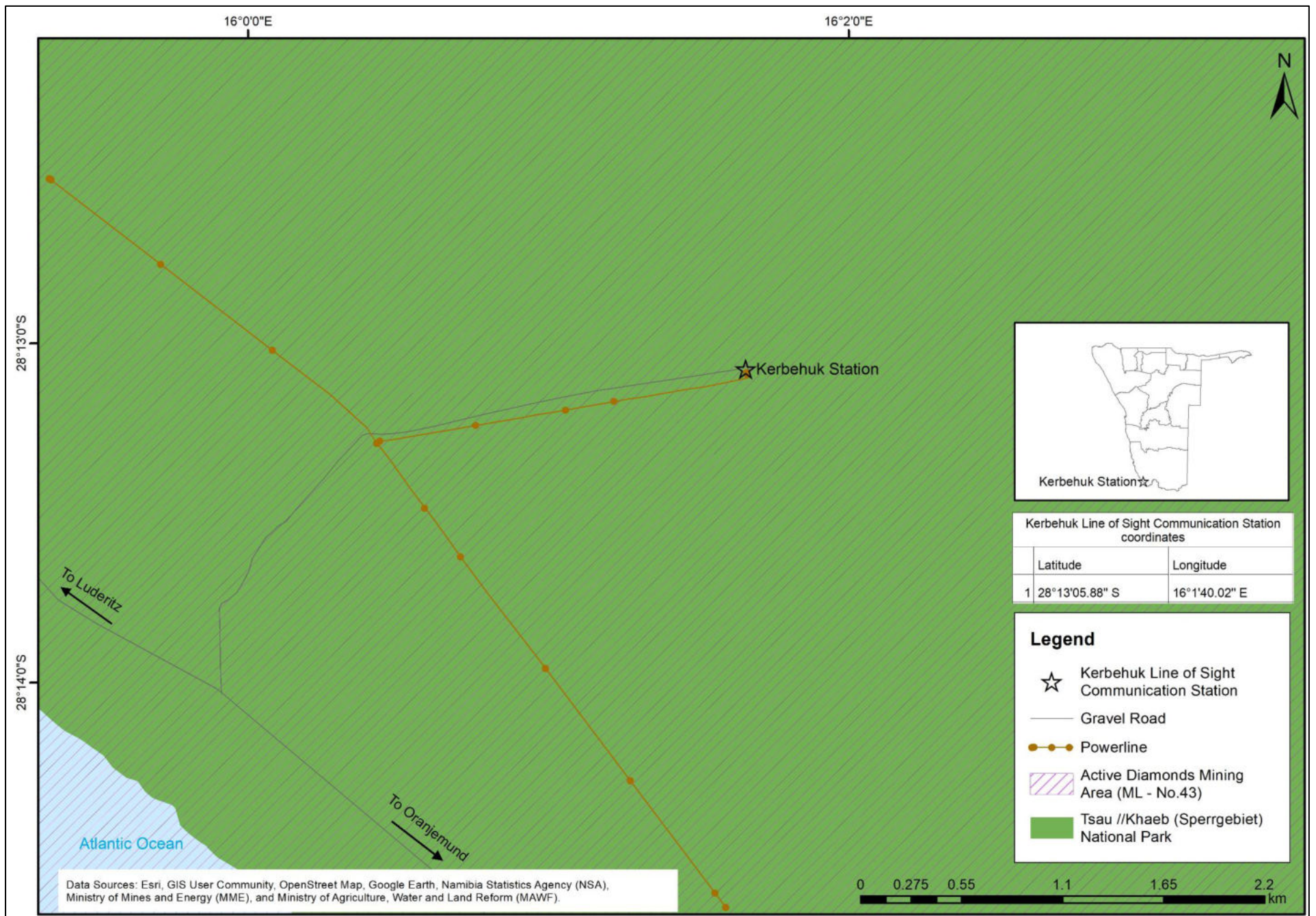


Figure 1.9: Detailed local location of the Kerbehuk line of sight communication station.

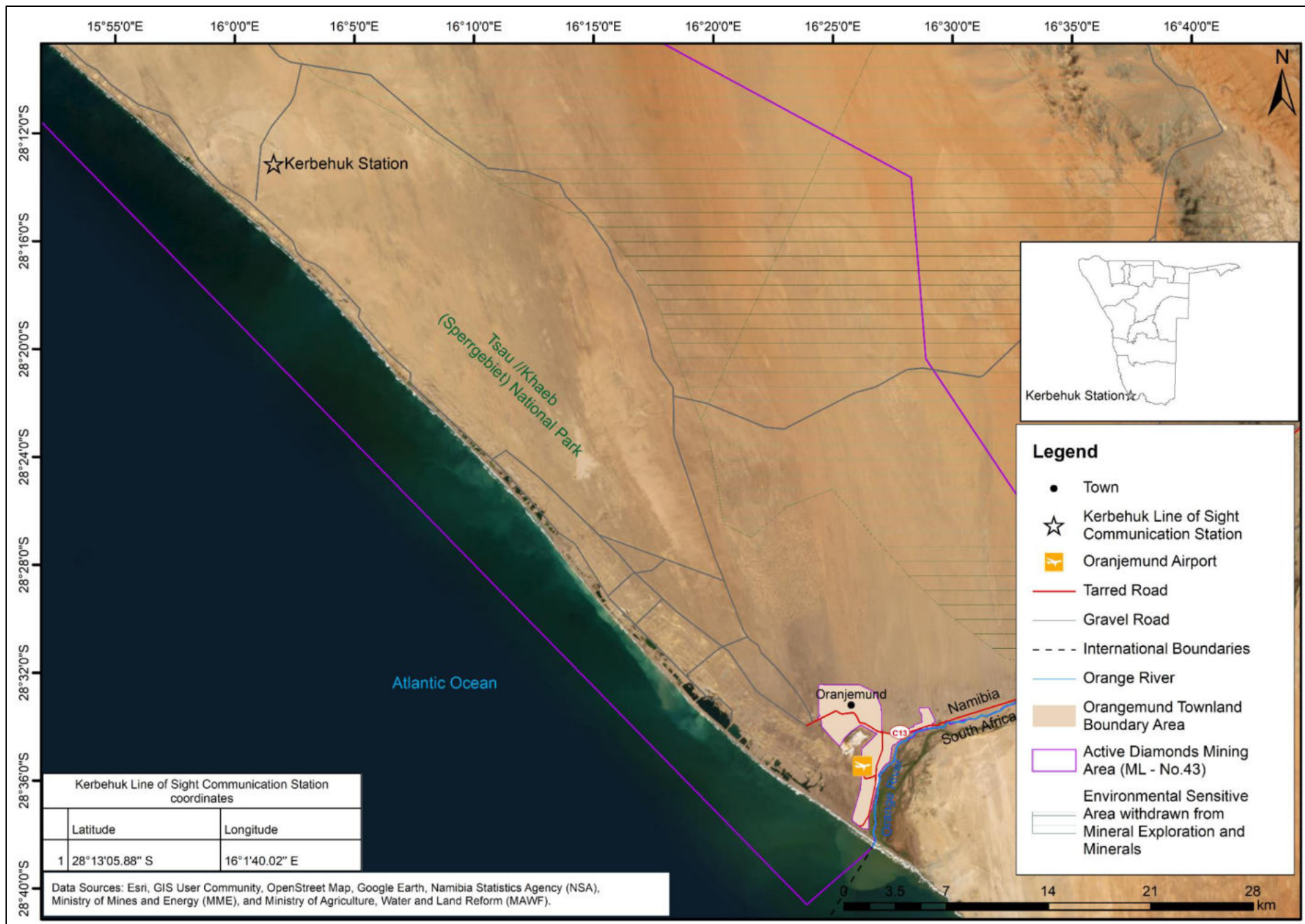


Figure 1.10: Detailed regional satellite image showing the location of the Kerbehuk line of sight communication station.

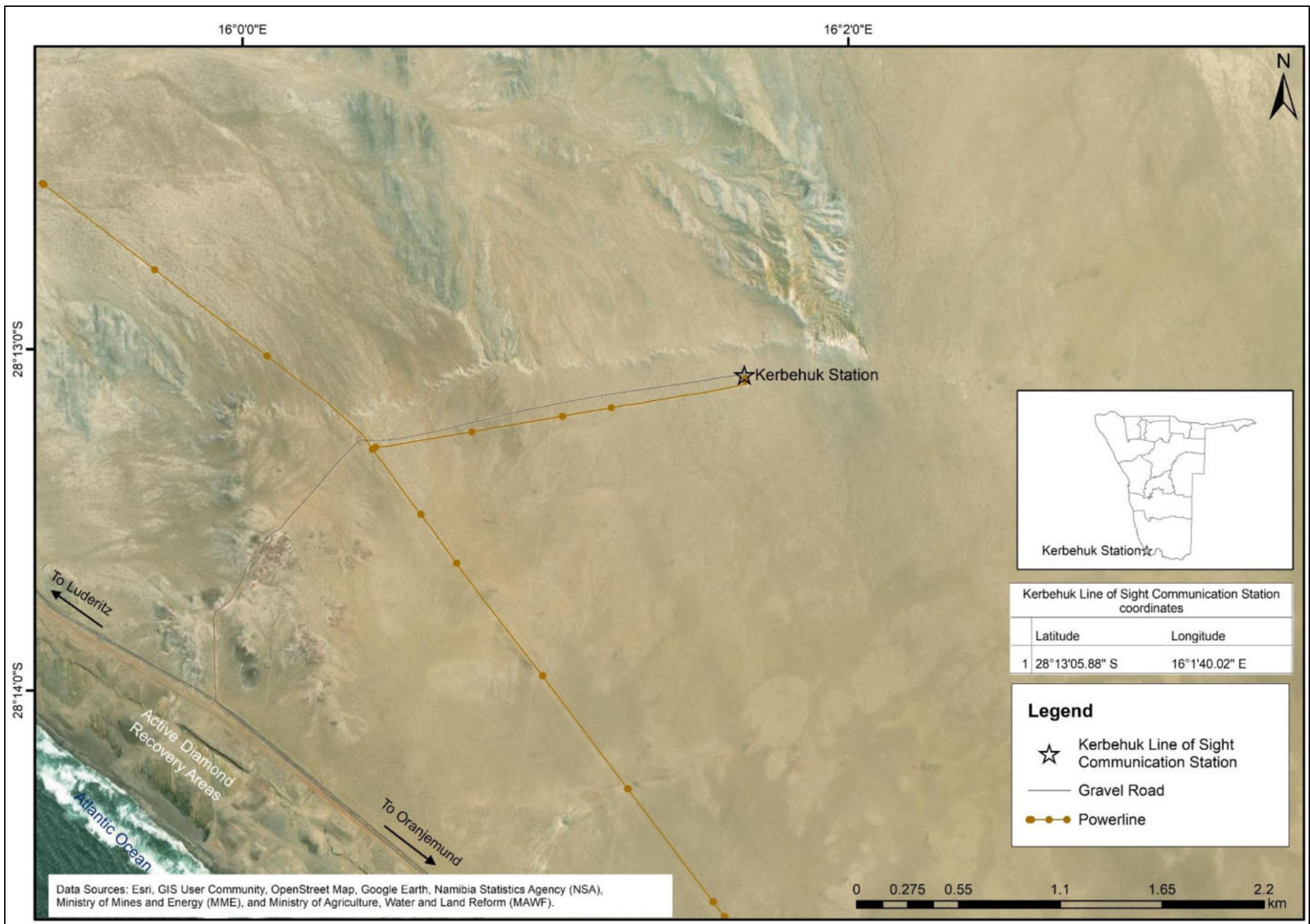


Figure 1.11: Detailed local satellite image showing the location of the Kerbehuk line of sight communication station.

1.5 Proposed Scope of Work

1.5.1 Planning and Design

Planning and design stage is the period, prior to the construction phase, during which the Proponent shall align the proposed project to the permit requirements and permitting arrangements are carried out in preparation for the preconstruction and construction stages. The proposed project implementation framework will cover the preconstruction, construction and commissioning, operations, removal of all infrastructure on closure of all diamond exploration and recovery operations and rehabilitation of the site.

The scope work as provided by DBMN will involve the erection of the tower and the node room as shown in Figs. 1.12-1.16. The development process will involve the following:

- ❖ Entry to the site is gained through the yard of the principal mine administrative and workshop area.
- ❖ Current spatial planning proposed, has existing tower infrastructure incorporated.
- ❖ Limited spatial area, thus the appropriate taper tower footprint is to be designed in accordance with the directional requirements of the dishes on the tower stands.
- ❖ New tower to be as per taper tower spec, supplied by a structural engineer.
- ❖ No current routing or provision available for data network towards the tower's reticulation.
- ❖ No current routing or provision available for power towards the tower and node reticulation.
- ❖ No base foundation, thus a concrete plinth is to be designed, for the tower foundation and for the node room foundation, as per the architectural plan.
- ❖ Node Room power is adequately designed to accommodate the tower's power requirement.
- ❖ Node room adequately designed to accommodate radio and tower network.
- ❖ Node room to cater to cooling requirements and temperature control with redundancy.
- ❖ Routing from the newly proposed tower towards the node room is achievable through minor civil works and areal link cableways.
- ❖ Engineering analysis and assessment will be conducted in detail before construction commencement, and.
- ❖ All structural and civil works to comply with SANS.

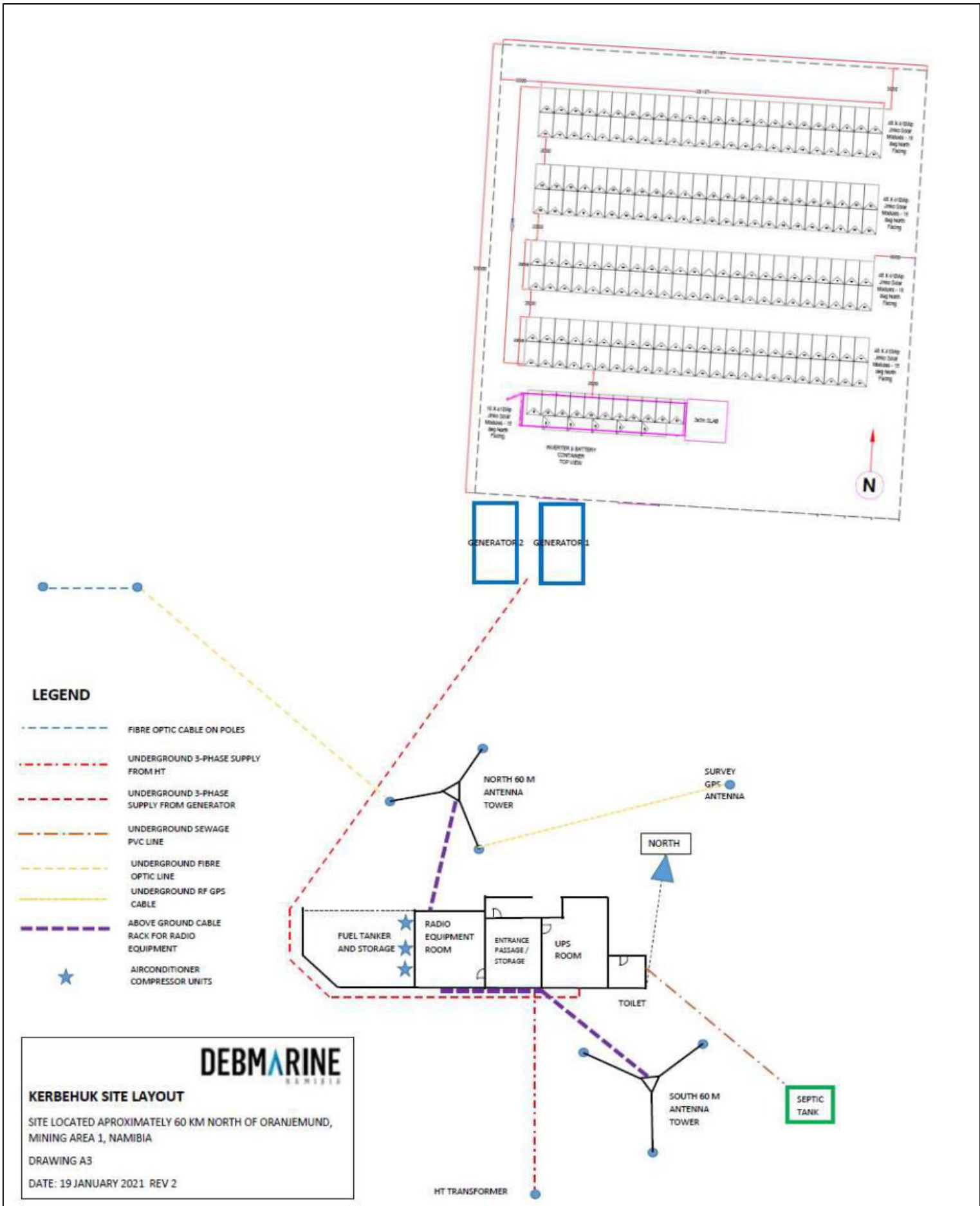


Figure 1.12: Site layout of the Kerbehuk line of sight communication station (Source: DBMN, 2023).

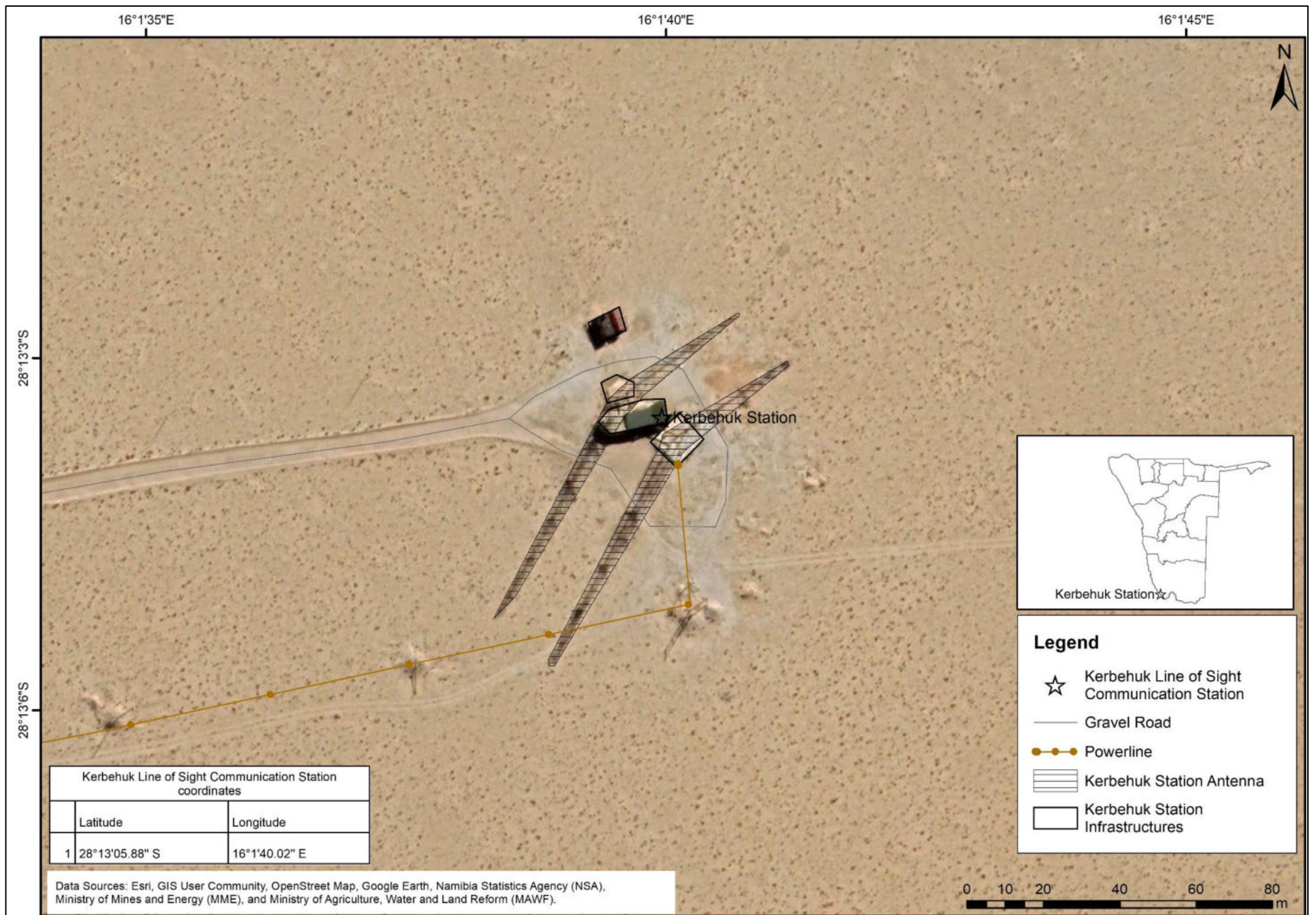


Figure 1.13: Existing Kerbehuk line of sight communication station.



Plate 1.3: Existing supporting infrastructure Kerbehuk line of sight communication station.



Plate 1.4: Existing infrastructure, solar PV Park that supplies power to the Kerbehuk line of sight communication station.

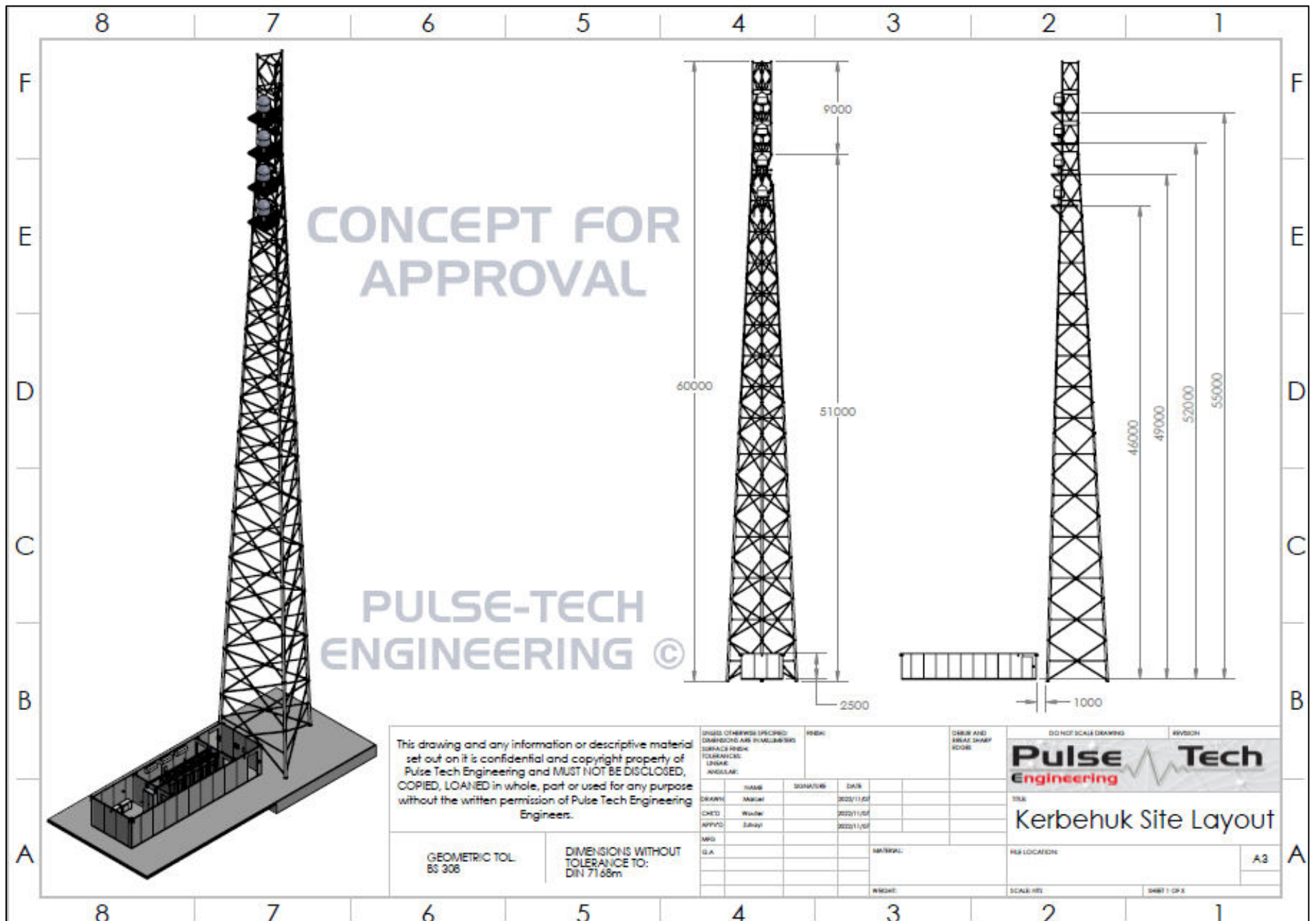


Figure 1.14: Kerbehuk line of sight communication station proposed upgrading site layout (Source: DBMN, 2023).

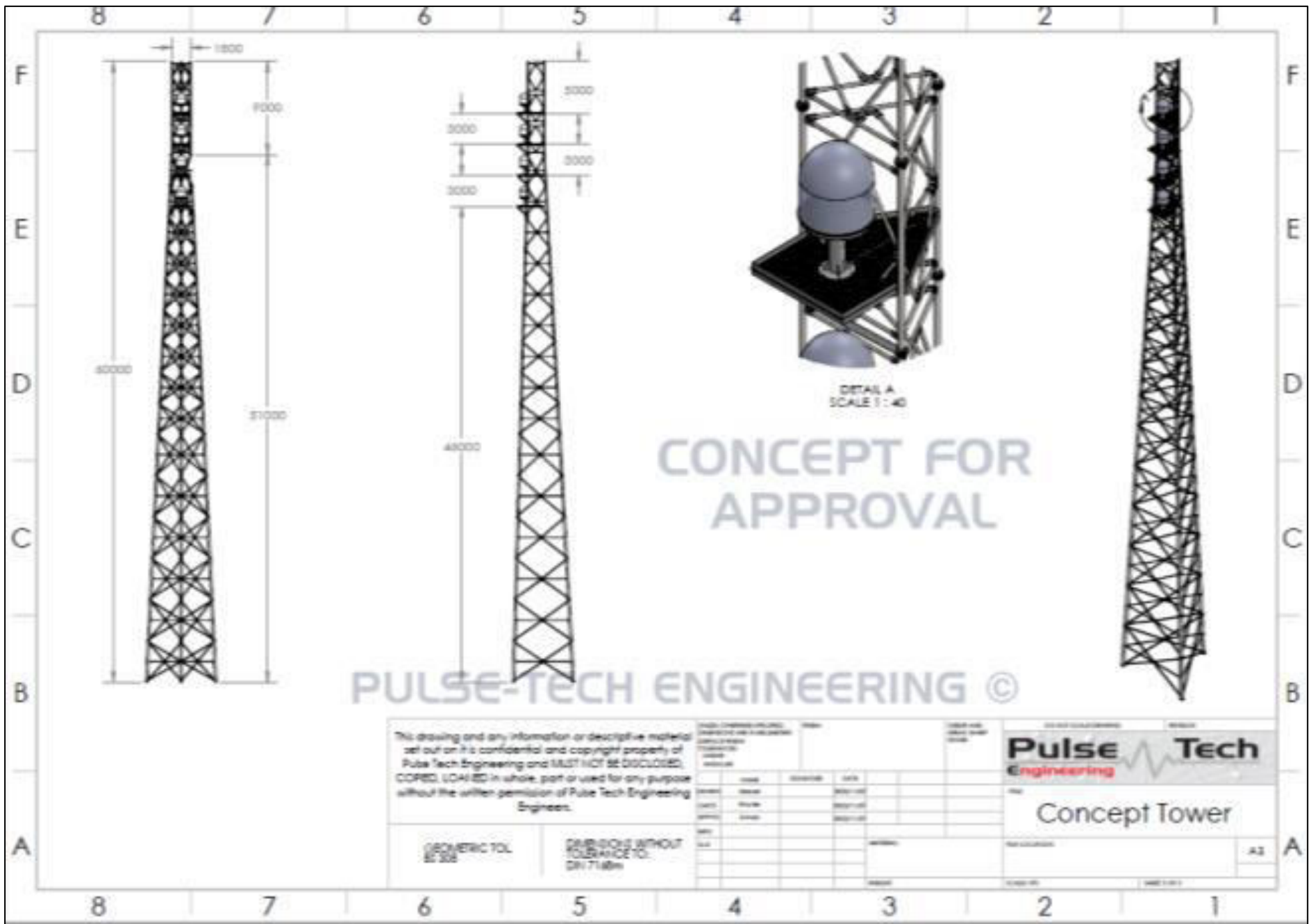


Figure 1.15: Kerbehuk line of sight communication station proposed concept tower upgrade (Source: DBMN, 2023).

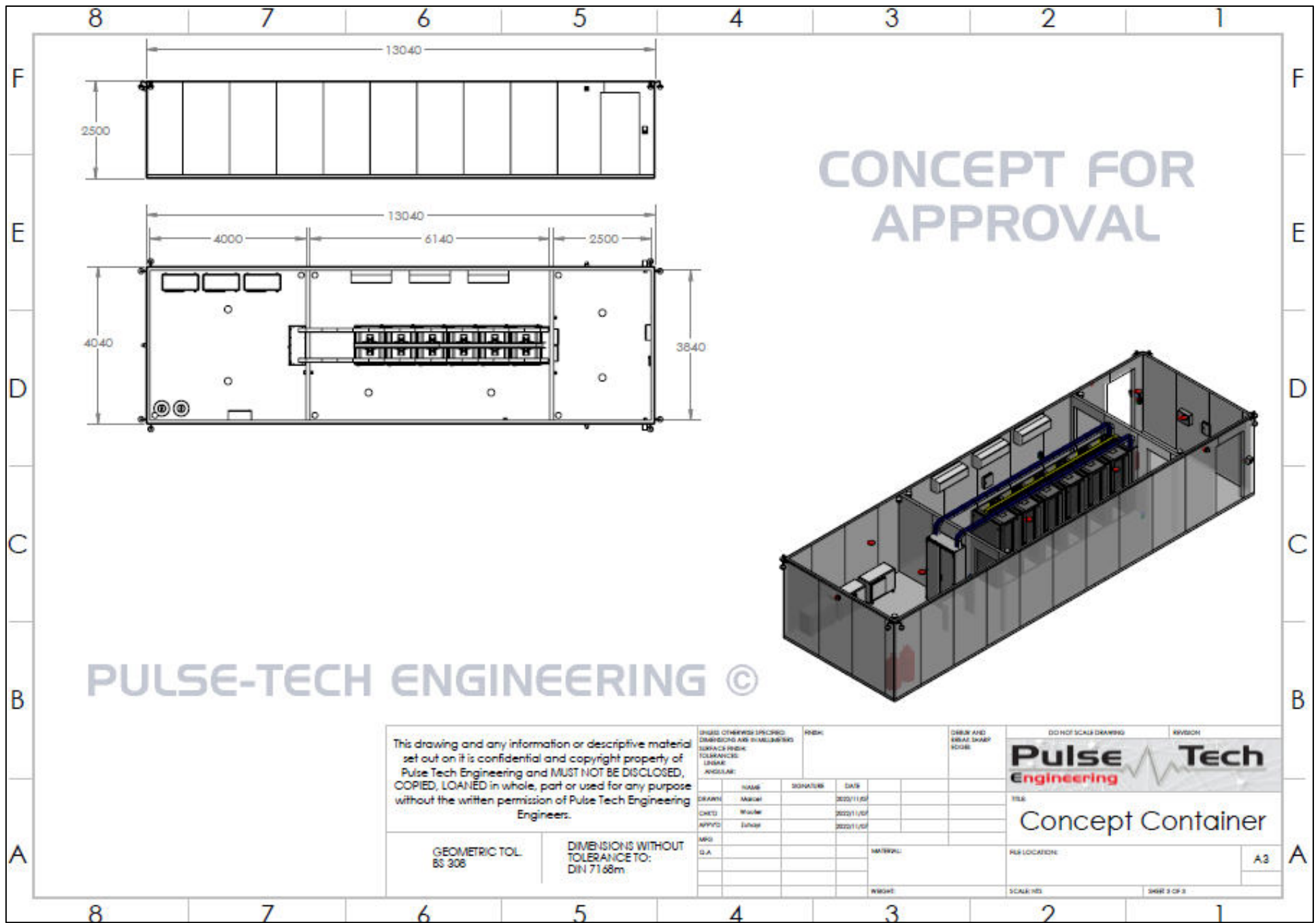


Figure 1.16: Kerbehuk line of sight communication station proposed concept containerised high site node room upgrade (Source: DBMN, 2023).

1.5.2 Preconstruction and Construction

The preconstruction and construction stages of the proposed project activities will begin once all the required plans and services / contractor procurements have been completed. The following is the summary of the activities associated with the preconstruction, construction, operational and rehabilitation stages of the proposed solar park:

- ❖ Transporting materials to the existing tower sites.
- ❖ Site preparation including surveying.
- ❖ Removal of unwanted old supporting infrastructure.
- ❖ Levelling / excavations.
- ❖ Soil / Ground preparation.
- ❖ Building the foundations and anchors.
- ❖ Structure mounting.
- ❖ Module clamping.
- ❖ Communication and electrical equipment installation, and.
- ❖ Commissioning.

1.5.3 Commissioning and Operation

Once the construction upgrades to the Kerbehuk line of sight communication station have been completed it will be commissioned, the station will be self-sustaining within ongoing monitoring and maintenance support.

2. REGULATORY FRAMEWORK

2.1 Permitting Requirements

The proposed upgrading (construction of a new tower and high site node) of the Kerbehuk line of sight communication station will require back up energy supply to be provided by the existing 1000 litre containerised header diesel tank for standby generator and 20kW solar PV installation.

Based on the analysis of all the key and relevant regulatory systems in Namibia with respect to proposed upgrading of the the Kerbehuk line of sight communication station, the following are the key and important permits and endorsements required before the proposed installation can go ahead:

- (i) The station must be licensed under Communications Act, 2009, (Act No. 8 of 2009) which provides for the regulation of telecommunications services and networks, broadcasting, postal services and the use and allocation of radio spectrum. for that purpose, the establishment of an independent Communications Regulatory Authority of Namibia. to make provision for its powers and functions. the granting of special rights to telecommunications licensees. the creation of an Association to manage the .na internet domain name space and for matters connected therewith. The Ministry of Information, Communication and Technology (MICT) is the Competent Authority.
- (ii) The operation of a 1000 litre containerised header diesel tank for standby generator shall be licensed under the Petroleum Products and Energy Act 13 of 1990 (as amended by the Petroleum Products and Energy Amendment Act 29 of 2004, Act 3 of 2000 and Act 16 of 2003 and the regulations. This installation is already licensed under the Consumer Installation Certificate No. C1/2774/2020 issued by the Ministry of Mines and Energy (MME), the Competent Authority.
- (iii) The implementation of the construction will require a valid Environmental Clearance Certificate (ECC) as provided for in the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) and Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 administered by the Environmental Commissioner in MEFT, and.
- (iv) Other important permits under the Nature Conservation Ordinance, 1975 as Amended for operating in National Park, the Diamond Act 13 of 1999 (and the Regulations 1 April 2000 and Amendment of the Diamond Regulations 2003) for operating in the diamond mining license area / protected resources area and Minerals (Prospecting and Mining) Act, 1992 (No. 33 of 1992) and Minerals (Prospecting and Mining) Amendment Act, 2008 (No. 8 of 2008) for operating in the Mining License (ML) No. 43.

2.2 Competent Authorities

The following is the summary of the Competent Authorities with respect to the proposed upgrading of the Kerbehuk line of sight communication station:

- (i) The Ministry of Information, Communication and Technology (MICT) is the Competent Authority for licensing the Kerbehuk line of sight communication station.
- (ii) Ministry of Mines and Energy (MME), is the Competent Authority for operation of a 1000 litre containerised header diesel tank for standby generator, mining licensing, security and diamond permits, and.
- (iii) Ministry of Environment, Forestry and Tourism (MEFT) is the Competent Authority for all permits associated with access to a National Park.

2.3 Regulatory Register

The following is the summary of the key legislation relevant to the proposed upgrading of the Kerbehuk line of sight communication station by DBMN:

1. Communications Act, 2009, (Act No. 8 of 2009).
2. Petroleum Products and Energy Act 13 of 1990 (as amended by the Petroleum Products and Energy Amendment Act 29 of 2004, Act 3 of 2000 and Act 16 of 2003).
3. Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007).
4. Environmental Impact Assessment (EIA) Regulations No. 30 of 2012.
5. Minerals (Prospecting and Mining) Act, 1992 (No. 33 of 1992) and Minerals (Prospecting and Mining) Amendment Act, 2008 (No. 8 of 2008).
6. The Diamond Act 13 of 1999 (and the Regulations 1 April 2000 and Amendment of the Diamond Regulations 2003).
7. Nature Conservation Ordinance, 1975 as Amended.
8. Public Health Act 36 of 1919 (as last amended by Act 21 of 1988).
9. Water Act 54 of 1956 (as amended).
10. National Monuments Act 28 of 1969 (as amended by the National Monuments Amendment Acts 22 of 1970 and 30 of 1971, the Expropriation Act 63 of 1975, and the National Monuments Amendment Act 35 of 1979).
11. Soil Conservation Act 76 of 1969 (as amended in South Africa (SA) to March 1978. section 13 is amended by the Forest Act 12 of 2001).
12. Hazardous Substance Ordinance 14 of 1974.
13. Atmospheric Pollution Prevention Ordinance 11 of 1976.
14. Road Traffic and Transport Act 22 of 1999 (as amended by the Road Traffic and Transport Amendment Act 6 of 2008).
15. Electricity Act 2 of 2000 and Electricity Act 4 of 2007 (and the Electricity Regulations: Administrative Electricity Act 2 of 2000 and the Electricity Control Board: Namibian Electricity Safety Code, 2009: Electricity Act, 2007).
16. National Heritage Act 27 of 2004 (and the Regulations/Appointments/Declarations made under the National Monuments Act 28 of 1969 and the Regulations 2005).
17. Labour Act 11 of 2007 (and the Labour Amendment Act 2 of 2012).
18. Tobacco Products Control Act 1 of 2010 (and the Regulations).
19. Disaster Risk Management Act 10 of 2012.
20. International Conventions and Protocols:
 - A. International Plant Protection Convention (IPPC) 1951 (as last amended in 1997).
 - B. Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (The Ramsar Convention on Wetlands) 1971.

- C. Declaration of the United Nations Conference on the Human Environment 1972.
 - D. Vienna Convention for the Protection of the Ozone Layer 1985 and Montreal Protocol on Substances that Deplete the Ozone Layer 1987.
 - E. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1989.
 - F. United Nations (UN) Framework Convention on Climate Change 1992 and Kyoto Protocol to the UN Framework Convention on Climate Change 1997.
 - G. Convention on Biological Diversity (CBD), Rio de Janeiro, 1992.
 - H. Stockholm Convention on Persistent Organic Pollutants (POPs) 2001 (as amended in 2009 and 2011).
 - I. United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention on the Protection of the Underwater Cultural Heritage 2001.
 - J. Convention for the Safeguarding of the Intangible Cultural Heritage 2003.
 - K. Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005, and.
 - L. Revision of International Standards for Phytosanitary Measures (ISPM) No. 15 Regulation of Wood Packaging.
21. Regional Agreements:
- 1. Southern African Development Community (SADC) Protocol on Mining 1997, and.
 - 2. Southern African Development Community (SADC) Protocol on Energy 1998.

3. EMP FRAMEWORK AND MITIGATION MEASURES

3.1 Overview

DBMN's environmental management plan outlines how the company intends to manage all its activities associated with the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node that will significantly impact on the receiving environment or that may potentially be of high risk in the short and long-terms.

Through the implementation of this EMP, DBMN will minimise and maximise the negative and positive effects respectively, of its operations on the receiving environment directly or indirectly linked to the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node.

DBMN's commitments to responsible and sound environmental management of all their activities are reflected in the company's Environmental Policy, ISO 14001 Environmental Management System (EMS) and in the Safety, Health, Environmental and Security Policy. DBMN operates a certified ISO 14001 EMS which is certified by the South African Bureau of Standards and ongoing surveillance audits ensure compliance to these requirements.

This EMP for the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node shall be integrated into DBMN's ISO 14001 Environmental Management System (EMS) for effective monitoring of all the DBMN operations.

3.2 EMP Framework as Recommended in the EIA

In accordance with the results of the impact and risk assessments undertaken detailed in the Updated EMP Report for the proposed upgrading of the Kerbehuk line of sight communication station involving the construction of a new tower and high site node, a detailed EMP framework with mitigation measures was recommended to be prepared as part of the EMP Report for implementation and monitoring by DBMN and covering the following components as presented in Tables 3.1 – 3.5:

- (i) General company procedures for EMP implementation in line with DBMN operations and EMS (Table 3.1);
- (ii) Implementation of the Environmental, Health and Safety (HSE) management systems, procedures and operational requirements covering the proposed project lifecycle (Table 3.2);
- (iii) Protection of the physical, biological and ecosystem components of the environment due to increased / cumulative activities around the Kerbehuk line of sight communication station site, the Mining License (ML) No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park (Table 3.3);
- (iv) Enhancement of the socioeconomic components (Table 3.4), and;
- (v) Alignment of mine closure and sustainability / alternative use of the Kerbehuk line of sight communication station infrastructure developed by tourism / leisure / conservations related activation beyond the diamond exploration and recovery operations by DBMN (Table 3.5).

Each of the EMP Tables 3.1 – 3.5 framework covers aspect, impact description, risk / gain ranking, action plans and control measures, responsible person(s), timing, management objectives and applicable regulations.

Table 3.1: General company procedures for EMP implementation in line with DBMN operations and EMS.

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
1.1	Implementation of the environmental management policy and procedure	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> Define the roles and authorities of staff members (and any specialist consultants) responsible for implementation of the various facets of this EMP. Address training needs of staff required to implement specialised aspects of the EMP. Maintain records of plans, decisions, data collected, communications made, emergency responses, etc., which document the implementation of the EMP. 	<ul style="list-style-type: none"> The EMP process is employed, so that operations are conducted in an environmentally responsible manner All action plans outlined in this EMP are achieved, including continued consultation with all stakeholders and compilation of Performance Assessments ISO 14001 certified Environmental Management Systems are maintained for all certified areas of activities 	Environmental Manager	Ongoing
1.2	Awareness and Internal communication about the EMP		High	<ul style="list-style-type: none"> All personnel will be made aware of the contents of DBMN's Environmental Policy Statements. All personnel who are in a position to make decisions or take actions that will influence environmental protection and management will be made aware of the contents, and their respective responsibilities for implementation, of the EMP. 		Environmental Manager	Ongoing
1.3	Instructions to all staff, including contractors		High	<ul style="list-style-type: none"> Provide instructions and appropriate training to all staff about aspects of the EMP that affect their specific work, including hydrocarbon pollution prevention and clean-up, general waste management, protection of natural resources, and rehabilitation. Conduct an environmental awareness and sensitivity of the area around the Kerbehuk line of sight communication station (the Mining License (ML) No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park requirements). Prior to working in the area all contractors must undergo an environmental and safety induction with daily debriefings. Incorporate environmental aspects and management interventions applicable to particular outsourced tasks into contracts and performance appraisals to improve environmental awareness and performance, and specify penalties for non-compliance. Report all environmental incidents as specified in the Company Procedures. 		Environmental Manager	Ongoing

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
1.4	EMP Monitoring and Performance Assessments	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> ■ Undertake to conduct EMP monitoring on a continuous basis using the mechanism of DBMN's ISO14001 Environmental Management System. ■ Undertake formal EMP performance assessments every 6 months to check progress in meeting the objectives and targets of this EMP, ■ Compile and submit EMP Performance Assessment Reports to the Ministry of Environment, Forestry and Tourism (MET) through the Ministry of Mines and Energy (MME) containing as a minimum the following information: <ul style="list-style-type: none"> ○ Information regarding the period applicable to the assessment ○ Scope of the assessment ○ Procedure used for the assessment ○ Interpreted information gained from monitoring ○ Evaluation criteria used ○ Results of the assessment ○ Recommendations on how and when non-compliances or deficiencies will be rectified. ■ Submit revised and amended Environmental Management Programme Reports to MET through MME as or when required / as provided for in the Environmental Clearance Certificate (ECC) Conditions. ■ Request MET and MME to respond to the submitted reports within 4 months; beyond which time it will be assumed to have been accepted as is. 	<ul style="list-style-type: none"> ■ An ethic of environmental responsibility is instilled in all staff and contract workers ■ Adequate provision is planned and made for rehabilitation and restoration of impacts 	Environmental Manager	First due 6 months after EMP approval date

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
1.5	EMP Updates	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> On an ongoing basis, assess the applicability of actions and activities required by the EMP, identify and address all new environmental issues arising from changed operations and/or communications with interested parties, through updates to the EMP if/where necessary. Communicate and consult with I&APs through appropriate platforms to inform them of proposed changes and address any concerns. Amend and update this EMP, if required and submit to Ministry of Mines and Energy and Ministry of Environment, Forestry and Tourism for approval. Request for responds to the submitted report within 4 months. 		Environmental Manager	Ongoing
1.6	Communications with stakeholders	Improved stakeholder relationships	High	<ul style="list-style-type: none"> Maintain an up-to-date I&AP database. Maintain open communication with the relevant stakeholders listed in DBMN database informing them of proposed changes to the EMP, addressing any issues of concerns that may arise, maintain records of communications, and where relevant, address their needs. Participate actively in appropriate fora to share information and co-operate with other stakeholders and resource managers in the marine environment. 		Environmental Manager	Ongoing
1.7	Pecuniary provision/ allocation of environmental management funding	Improved Environmental Management	High	<ul style="list-style-type: none"> Allocate operational costs to maintain an ISO14001 system and to meet EMP objectives, including all associated requirements, e.g. funding of research and monitoring to understand, and where possible, mitigate impacts. 		Environmental Manager	Ongoing
				<ul style="list-style-type: none"> Maintain Protection and Indemnity (P&I) Insurance Cover of US\$ 700 million to allow for clean-ups in the event of oil spills, and unlimited (P&I) Insurance Cover for other eventualities. 		Business Planning Manager	Ongoing

Table 3.2: Implementation of the Environmental, Health and Safety (HSE) management systems, procedures and operational requirements covering the proposed project lifecycle.

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
2.1	Maintain Environmental Management System (EMS)	Improved Environmental Management	High	<ul style="list-style-type: none"> ❖ Ensure that all requirements of the Company's ISO14001 Environmental Management System are met, including compliance with legislation, environmental awareness training, environmental monitoring, waste management and pollution control and MET Parks requirements. ❖ Ensure that external Surveillance and re-certification Audits are conducted by an accredited ISO14001 certifying body. ❖ Submit copies of External Audit Reports with Environmental Performance Reports 	<ul style="list-style-type: none"> ❖ An ISO14001 certified Environmental Management System for all areas of the company's activities is maintained ❖ There is compliance with national and international requirements ❖ There is compliance with all national standards related to or associated with the operations of the Kerbehuk line of sight communication station in the Mining License (ML) No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park in terms of environment, water, air quality, waste management, pollution management and all applicable components as may be required by MME and MET 	Environmental Manager	Ongoing
2.2	Integration of Environmental Management		High	<ul style="list-style-type: none"> ❖ Include environmental management in DBMN's Strategic Long-term Business Plan, by integrating environmental management linked to the operations of the Kerbehuk line of sight communication station. ❖ Integration of future mine operations with the proposed Kerbehuk line of sight communication station long-term sustainability 		Environmental Manager	Ongoing
2.3	Establishment and review of Environmental Risks and Improved Environmental Performance		High	<ul style="list-style-type: none"> ❖ Develop a set of environmental risks (using standard risk assessment methodology), to be reviewed and, where necessary, updated in line with Environmental Aspects Procedure. ❖ Adopt a more results-driven research and monitoring approach, focusing attention specifically on fauna, flora and biodiversity related impacts of potentially medium and high risk, and how best to mitigate for these. ❖ Improve on performance reporting by determining key indicator species by which recovery rates of impacted areas can be determined more effectively. 		Environmental Manager Environmental Scientist	Ongoing
2.4	Maintain Safety Management System (SMS)	Improved Health and Safety	High	<ul style="list-style-type: none"> ❖ Maintain high safety standards for the operations of the Kerbehuk line of sight communication station 		Chief Safety Officer	Ongoing
2.5	Comply with the national and international requirements and operational standards	Improved Health and Safety and Environmental Management	High	<ul style="list-style-type: none"> ❖ Ensure compliance with the national and international requirements ❖ Ensure compliance with all other national legislations, regulations, DBMN Corporate requirements and standards 		Operations Manager Environmental Manager	Ongoing

Table 3.3: Protection of the physical, biological and ecosystem components of the environment due to increased / cumulative activities around the Kerbehuk line of sight communication station site, the Mining License (ML) No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park.

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
4.1	Increased activities within the ML No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park due to DBMN operations and other operators	Disturbance of fauna and birds around the Kerbehuk line of sight communication station and the wider ML No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park.	Medium	<ul style="list-style-type: none"> Ensure that all operations are undertaken in accordance with the provisions of this EMP, MET Parks Department, MME and DBMN procedures and EMSs requirements and protocols 	<ul style="list-style-type: none"> Disturbance of fauna and birds around the Kerbehuk line of sight communication station and the wider ML No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park. minimised 	Environmental Manager for DBMN	Ongoing

Table 3.4: Enhancement of the socioeconomic components.

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
4.1	Environmental Communication	Improved Environmental Awareness	High	<ul style="list-style-type: none"> Improve stakeholder relationships by maintaining open communication with relevant I&APs on issues that may arise, and where relevant, address their needs. Keep a record of all communications with I&APs, the points raised, and how these points have been addressed. 	<ul style="list-style-type: none"> Economic benefits to people of Namibia optimised, where feasible A balance between economic, social and environmental responsibilities is struck Opportunities provided for local business, industrial relations promoted, and contribution to socioeconomic 	Environmental Manager(s) and Contracted Consultants	Done as part of Public Scoping
				<ul style="list-style-type: none"> Report to the relevant stakeholder on new activities with potential environmental impacts. 		Environmental Manager(s)	Ongoing
				<ul style="list-style-type: none"> Publicise and make available information on DBMN's environmental monitoring programmes and environmental performance. 		Environmental Manager(s)	Ongoing
				<ul style="list-style-type: none"> Where feasible, comply with the local development objectives, spatial development framework and integrated development planning of the area, and promote co-operative governance and integrated decision-making. 		Environmental Manager (s)	Ongoing
				<ul style="list-style-type: none"> Continue to increase number of Namibians employed by De Beers Marine Namibia, and to provide them with training to develop skills. Maintain the Kerbehuk line of sight communication station operations and infrastructure. Outsource services where possible. 		Human Resources Manager	Ongoing
4.2	Employment	Boosts Namibian economy and development of skills	High	<ul style="list-style-type: none"> Continue to increase number of Namibians employed by De Beers Marine Namibia, and to provide them with training to develop skills. Maintain the Kerbehuk line of sight communication station operations and infrastructure. Outsource services where possible. 	Human Resources Manager	Ongoing	

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
				<ul style="list-style-type: none"> ■ Include local Small and Micro enterprise service providers in the tendering process for supplies and services, giving preference to companies with a labour-intensive focus and Black Economic Empowerment (BEE) companies. ■ Where possible, develop and support Small and Micro Enterprises, in order to provide employment opportunities. 	<ul style="list-style-type: none"> ■ stability ■ Training and development opportunities provided for all staff ■ Relevant stakeholders consulted on a regular basis ■ Good working and living conditions for DBMN employees promoted and maintained 		
4.3		Contribution to Oranjemund Lüderitz communities and //Karas Region	Medium to High	<ul style="list-style-type: none"> ■ Minimise net loss of employment opportunities either within DBMN or via potential contracts. ■ Give hiring priority to suitably qualified or experienced local Namibian citizens, as positions become available. ■ Within the resources available to DBMN, support appropriate initiatives to improve community welfare, particularly in the Town of Oranjemund. ■ Ensure that DBMN' s wellness programme covers all workers in the area. ■ Consider expanding some wellness programme interventions to sub-contractors. 		Human Resources Manager	Ongoing
						Financial Manager	Ongoing
						Human Resources Manager	Ongoing
4.4	Taxes / royalties	Contribution to national economy	High	<ul style="list-style-type: none"> ■ Pay all applicable taxes and royalties to the government as required. ■ Pursue targets and standards set out in the DBMN Strategic Business Plan. ■ Maintain or increase current level of production. ■ Internally track the efficiency to ensure maintenance of profits. 		Financial Manager	Ongoing
4.5	Training and skills transfer	Contribution to Namibian training, education and research	High	<ul style="list-style-type: none"> ■ Continue to provide employees with training to develop skills by: <ul style="list-style-type: none"> ○ Addressing training needs of all staff required to implement specialised aspects the Kerbehuk line of sight communication station. ○ Conducting environmental awareness and health and safety awareness programmes. ■ Incorporate environmental aspects and management interventions applicable to particular outsourced tasks into contracts and performance appraisals to improve environmental awareness and performance. ■ Emergency preparedness and response teams/contractors are to train employees and contractors on appropriate skills. 		Human Resources Manager	Ongoing
						Environmental Manager	
4.6	Research and development	Technological advancements in exploration, diamond	High	<ul style="list-style-type: none"> ■ Continue to develop prospecting, diamond recovery and metallurgical technologies for marine diamond recovery long-term sustainability 		Operations Manager	Ongoing

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
		recovery and the Kerbehuk line of sight communication station operational systems					
4.7	Sponsorships of research, education and community projects	Improved environmental knowledge/awareness of the region	High	<ul style="list-style-type: none"> ■ Where possible, sponsor Namibian research and education to contribute to public understanding of relevant environmental issues and environmental management practices e.g. invite scientists to participate in environmental surveys and share knowledge on findings including contributions to biodiversity. ■ Continue with regular activities initiated by other parties such as Namdeb and Oranjemund Town Council and Non-Governmental Organisations (NGOs) and civil society initiatives involving school children) in different areas, including those areas outside DBMN's responsibility (e.g. clean-up campaign). ■ Provide social contributions to research, educational and community projects in Lüderitz and the //Karas Region. 		Environmental Scientist Environmental Manager	Ongoing

Table 3.5: Alignment of mine closure and sustainability / alternative use of the Kerbehuk line of sight communication station infrastructure developed by tourism / leisure / conservations related activation beyond the diamond exploration and recovery operations by DBMN.

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
5.1	Closure of DBMN Operations including the Kerbehuk line of sight communication station	Termination of all contributions to the economy including taxes, employment, support to secondary industries	High	<ul style="list-style-type: none"> ■ As an interdisciplinary initiative between all involved DBMN internal and external stakeholders, undertake to develop a Rehabilitation and Closure Plan, which gives attention to: <ul style="list-style-type: none"> ○ Approximate dates of progressive or partial closure applications, ○ Objectives of closure planning, ○ Relevant decommissioning and rehabilitation monitoring programmes, ○ Financial provisioning for mine closure, ○ Provisioning for the development of a social and labour plan for closure, ○ Identification of end use of the Kerbehuk line of sight communication station especially in support of the future tourism development of the Tsau //Khaeb (Sperrgebiet) National Park area. ○ Rehabilitation actions required to obtain end use of the Kerbehuk line of sight communication station, ○ Human resources and community plan of action, ○ Communication strategy, and ○ Actions required for sustainability. 	<ul style="list-style-type: none"> ❖ All closure objectives outlined in the rehabilitation and closure plan, and in the social and labour plan, are met ❖ Ensure that the the Kerbehuk line of sight communication station infrastructures are all in good working condition before handover to MET / third-party 	Environmental Manager Operations Manager	Ongoing
5.2	Closure Planning	Improved management of closure and rehabilitation	High	<ul style="list-style-type: none"> ■ Ensure that closure planning continues throughout the life of the operation. ■ Gather relevant information throughout the life of mine to ensure that environmental risks are quantified and managed proactively. ■ Make provision as part of ongoing environmental management for post-mining surveys of selected areas to demonstrate recovery (3-5-year intervals). ■ Ensure that Safety and Health requirements are complied with. 	in order to ensure that the station infrastructure continue contributing to socioeconomic development of Oranjemund, //Karas Region and Namibia	Environmental Manager Operations Manager	Ongoing
5.3	Closure Certificate	Improved management of closure and rehabilitation	High	<ul style="list-style-type: none"> ■ When DBMN intend closing operations, a final EMP performance assessment should be conducted to ensure that: <ul style="list-style-type: none"> ○ The requirements of the relevant legislation have been complied with; ○ The research and monitoring that has been conducted (including the total area disturbed) is summarised; 		Environmental Manager	On Closure

#	ASPECT	IMPACT DESCRIPTION	RISK / GAIN RANKING	ACTION PLANS AND CONTROL MEASURES	MANAGEMENT OBJECTIVES	RESPONSIBLE PERSON(S)	TIMING
				<ul style="list-style-type: none"> ○ The closure objectives as described in the closure plan have been met; and ○ All residual and latent environmental impacts and the risks thereof occurring have been identified, quantified and arrangements for the management thereof have been finalised. ■ When applying for closure, submit the following documentation to MME and MET: <ul style="list-style-type: none"> ○ The Closure Plan ○ An Environmental Risk Report ○ The Final Performance Assessment Report ■ An application form to transfer environmental responsibilities and liabilities, if such transfer has been applied for. 	especially in support to the future tourism development of the Tsau //Khaeb (Sperrgebiet) National Park area		
5.4	Financial Provisioning	Improved management of closure and rehabilitation	High	<p>Ensure that requirements in terms of financial provision for remediation of environmental damage are met by:</p> <ul style="list-style-type: none"> ■ Allocate operational costs to maintain an ISO14001 system and to meet EMP objectives, ensuring that potential environmental impacts are integrally managed or monitored in such a way as to prevent or minimise them. ■ Maintain adequate Protection and Indemnity (P&I) Insurance Cover to allow for cleanups in the event of oil spills and other eventualities. ■ Allocate operational costs to monitor and demonstrate natural recovery of the seabed through pre- and post-mining benthic faunal and seabed surveys. ■ Provide sufficient funds for a post-closure environmental survey before the handover of the Kerbehuk line of sight communication station to MET or third-party 		Financial Manager	Ongoing

4. ENVIRONMENTAL PERFORMANCE MONITORING

4.1 Overview

The Environmental Performance Monitoring activities shall be undertaken by DBMN Environmental during the preconstruction, construction and operational stages of the proposed upgrading of the Kerbehuk line of sight communication station with bi-annual monitoring reports submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism through the Ministry of Mines and Energy (Mining Commissioner).

As per the provisions of the EMP, the environmental performance monitoring activities are recommended to be undertaken during the preconstruction, construction and operational stages of the proposed Kerbehuk line of sight communication station infrastructure development because this approach makes it possible to identify unpredicted effects and take the necessary precautions to eliminate the likely negative impacts before the effects become significant. The following is summary of the environmental performance monitoring to be undertaken:

- ❖ **Monitoring Plan:** Environmental monitoring is partly in-house (data collection during preconstruction, construction and operational) and outsource (employ a consultant) to undertake the assessment and recommend measures to be implemented in line with the DBMN EMS requirements;
- ❖ **Implementation of the EMP:** The implementation of the EMP monitoring plan by DBMN shall be focused on collecting and analysing the required datasets and propose recommendations on what needs to be done for both the long-term and short (day to day) monitoring operations. The EMP implementation shall be undertaken as an in-house activity in line with the DBMN EMS requirements;
- ❖ **EMP Auditing:** Compliance auditing of the EMP implementation and monitoring thereof is a key component of the environmental performance monitoring and management system. The EMP auditing is an internal activity that shall be often supported by an external consultant as may be required and linked to the EMS monitoring and auditing requirements, and;
- ❖ **EMS Auditing:** Personnel within DBMN are responsible for the management of these impacts through regular environmental audits to evaluate compliance and effectiveness of the company's EMS to the ISO 14001 standard, as well as the ML No. 43 (MME) and the Tsau //Khaeb (Sperrgebiet) National Park (MET) areas compliance with operational requirements and statutory requirements including both internal audits and external surveillance audit requirements.

4.2 Environmental Performance Monitoring and Reporting

The monitoring of the environmental performances reporting for the Kerbehuk line of sight communication station can be divided into two (2) parts and these are:

- (i) Routine / ongoing daily monitoring activities to be undertaken by the Project HSE Officer with the support of the external specialist consultants as may be required, and.
- (ii) Preparation of biannual Environmental Monitoring Report and Environmental Closure for all activities related to the Environmental Management Plan during the preconstruction, construction and commissioning, operations stages and at closure of the station to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required.

The proponent will be required to report regularly (twice in a year or as the case may be) to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT), the environmental performances as part of the ongoing environmental monitoring programme.

4.3 Environmental Monitoring Plan and Rehabilitation

4.3.1 Objectives of the Monitoring Plan

The main objectives of the monitoring plan are the following:

- ❖ Verify of the correct application of the monitoring measures as presented in the Environmental Management Plan (EMP);
- ❖ Establish a monitoring program for the most relevant environmental data sets, parameters, identifying the monitoring activities and frequencies;
- ❖ Identify the impacts foreseen by the project and any unforeseen deviations, allowing for the implementation of corrective measures as needed;
- ❖ Provide assurance to stakeholder requirements with respect to environmental and social performance;
- ❖ Check the overall effectiveness of the operational procedures in protecting the receiving environment;
- ❖ Comply with regulations, standards and conditions, and;
- ❖ Compare actual impacts with those predicted in the Updated EMP Report and thereby aim to improve the assessment and monitoring processes.

4.3.2 Ongoing and Final Rehabilitation Process

Ongoing rehabilitation of disturbed areas and removal of unwanted materials such as concrete remains, scrap metals, and removal of disused powerline infrastructure shall be undertaken as part of the ongoing activities during the site preconstruction, construction, and operational stages.

Once the ongoing onshore and offshore diamond exploration and recovery operations ceases, all the infrastructures of the Kerbehuk line of sight communication station shall be removed including the container, towers, powerline, foundations, walls and all building rubbles materials, scrap metals and wood wastes.

The following is the summary of key rehabilitation process to be implemented by the Proponent:

- ❖ Step 1: Levelling of all disturbed areas:
- ❖ Step 2: Remove all waste and unwanted materials:
- ❖ Step 3: Remove all structures:
- ❖ Step 4: Rehabilitate the excavated voids:
- ❖ Step 5: Rehabilitate all supporting infrastructure area:
- ❖ Step 6: Rehabilitate all other surrounding areas that may have been affected, and.
- ❖ Step 7: Rehabilitate the roads and powerline routes to site.

4.3.3 Rehabilitation Evaluation and Performance Monitoring

The following is the summary of key rehabilitation evaluation and performance monitoring to be implemented by the Proponent:

- ❖ **Monitoring:** Monitoring program shall be instituted to ensure that the requirements of the site rehabilitation program are met.
- ❖ **Frequency:** All rehabilitated areas should be monitored over a 3 years period from the onset of the rehabilitation procedures.
- ❖ **Methods:** The rehabilitated areas might be monitored by the sampling randomly located 1m² quadrates.
- ❖ **Controls:** To enable a comparison, control plots located within the surrounding undisturbed areas should also be monitored.
- ❖ **Maintenance:** Maintenance requirements may include correcting erosion problems, removing weeds, etc. Maintenance of the rehabilitated areas will be necessary periodically, and.
- ❖ **Qualified Personnel:** The rehabilitation procedures from implementation to monitoring should be overseen by qualified personnel. Any persons involved in the rehabilitation of the site should be trained in the techniques involved.

4.4 Monitoring Quality Control Measures

4.4.1 EMS Auditing

DBMN is committed to conducting regular environmental audits to evaluate compliance and effectiveness of the Company's EMS to the ISO 14001 standard, as well as compliance with applicable legal and other operational requirements. This includes both internal audits and external surveillance and certification audits. The following four (4) tier system of environmental auditing has been implemented at DBMN and applicable to the operations of the Kerbehuk line of sight communication station, the winder ML No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park areas requirements:

- (i) Internal area environmental audits (conducted by the environmental monitors on either a monthly or quarterly basis);
- (ii) Environmental management team audits (conducted by members of the Environmental Management Team for each area);
- (iii) Environmental surveillance audits (conducted by external auditors once a year); and;
- (iv) National Occupational Safety Association (NOSA) grading audits, which deal with environmental protection, emergency procedures, drills and equipment as well as accident reporting and investigation.

4.4.2 Environmental Performance Monitoring Report

In demonstrating compliance with the EMP, legal and other operational requirements, and ongoing assessment of risks / aspects, Environmental Performance Monitoring activities shall be undertaken by DBMN Environmental Manager during the preconstruction, construction and operational stages of the proposed upgrading of the Kerbehuk line of sight communication station with bi-annual monitoring reports submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism, Executive Director (ED) in the Ministry of Mines and Energy.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The Proponent (DBMN) is proposing to upgrade the Kerbehuk line of sight communication station involving the construction of a new tower and high site node situated about 60 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region, Southern Namibia. Although the Kerbehuk line of sight communication station site is situated within the Tsau //Khaeb (Sperrgebiet) National Park, the actual site around the existing station that will be used for the construction of a new tower and high site node infrastructures is already disturbed and not pristine.

Based on the low sensitivity of the receiving environment (physical, biological and socioeconomic) and the low /negligible and medium to high negative and positive impacts results respectively, it's hereby concluded that the proposed upgrading of the power supply backup infrastructures to the Kerbehuk line of sight communication station by DBMN shall go-ahead and be issued with an Environmental Clearance Certificate (ECC). The proposed infrastructures upgrades to the Kerbehuk line of sight communication station will coexist with the receiving environments and other land uses linked to the ML No. 43 and the Tsau //Khaeb (Sperrgebiet) National Park areas.

5.2 Recommendations

In accordance with the results of the impact and risk assessments for the proposed upgrading of the Kerbehuk line of sight communication station as detailed in Updated EIA Report, this detailed Environmental Management Plan (EMP) has been prepared for implementation by DBMN (Chapter 3: Tables 3.1 -3.5). If new additional land will be required for the proposed Kerbehuk line of sight communication station upgrades the following actions shall be considered:

- (i) Before construction begins DBMN shall create a nursery where all important flora species – removed could be temporary kept for future rehabilitation purposes. Attempt to remove other species – especially dominant species such as *Othonna* spp. and *Salsola nollothensis*, etc. – for future rehabilitation purposes shall be done by qualified professionals. Certain species may be removed and relocated better than others – e.g., bulbs, tufted mesembs. *Sarcocaulon*, *Othonna cylindrical*. The Proponent shall also liaise with Namdeb and MEFT conservation staff to assist with the removal and nursery establishment as they have much experience with relocations and rehabilitation activities.
- (ii) The proponent (DBMN) shall work closely with the Ministry of Environment, Forestry and Tourism (MEFT) to capture and relocate as many of the important reptiles–e.g., *Bitis schneideri*, *Bitis peringueyi*, *Chersina angulata*, *Meroles micropholidotus* and *Psammobates tentorius trimeni* (should these occur) – and small mammals–e.g., dune hairy-footed gerbils from the well vegetated dune hummock areas and relocate to similar habitat within the Tsau //Khaeb (Sperrgebiet) National Park. Another serious concern is the impact of illegal plant-collecting. These activities target the rarest and hence most vulnerable species which are usually found in the biodiversity hotspots within the area. Entire populations of *Lithops*, and probably other sought-after species such as *Canophytum* and *Crassula*, have already been removed by unscrupulous collectors where they are accessible, and.
- (iii) Awareness needs to be raised among DBMN staff and contractors likely to be working around the site to avoid plant collection or poaching of wildlife.

The Environmental Performance Monitoring activities shall be undertaken during the preconstruction, construction and operational stages of the proposed upgrading of the Kerbehuk line of sight communication station with bi-annual / annual or as may be stipulated on the ECC, all monitoring reports shall be submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MET) through the Competent Authority (the Mining Commissioner in the Ministry of Mines and Energy (MME)).